County Borough of Northampton.

ANNUAL REPORT

ON

THE HEALTH

OF THE

County Borough of Northampton

For the Year ending Dec. 31st,
1906,

BY

JAMES BEATTY, M.A., M.D., D.P.H.,
Medical Officer of Health.

NORTHAMPTON:
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To his Worship the Mayor, the Aldermen, and the Councillors of the County Borough of Northampton.

Gentlemen,

I have the honour to submit to you my fourth Annual Report on the Health of the Borough, which deals with the year 1906.

The Report contains the vital statistics of the year, the statistics of the infectious diseases which occurred during the year, the work of the Borough Hospitals, and an account of the sanitary administration carried out under my supervision.

The following are special features :—

The mortality among infants ;
Sanatorium treatment of consumptives ;
Posters on the importance of fresh air ;
Summer diarrhœa ;
Food adulteration ;
Cowsheds.

The most striking points in the hygienic history of the year in Northampton are the low birth-rate, the extraordinarily low death-rate, the low zymotic death-rate, and the complete disappearance of measles from the list of causes of death.

I desire to thank you for the courtesy which has been shown to me, and for the attention you have paid to my suggestions during the year.

I am, Gentlemen,
Yours obediently,
JAMES BEATTY,
Medical Officer of Health.

Public Health Office,
20, Guildhall Road,
Northampton.
April 24th, 1907.

CHIEF FIGURES, 1906.

Estimated Population	91,640
Area in Acres	3,469
Inhabited Houses (Census, 1901)	17,609
Density of Population (Census, 1901)	25.36 persons per acre. 4.94 persons per house.
Rateable Value	£365,708

BIRTHS.

Males.	Females.	Total.	Birth-rate.
1022	963.	1985	21.66

DEATHS.

Males.	Females.	Total.	Death-rate.
571	490	1061	11.58

Zymotic Death-rate	0.92
Infant Mortality Rate	120.9
Death-rate from Pulmonary Phthisis	0.87
Death-rate from other Tubercular Diseases	0.34

DEATHS IN EACH QUARTER.

	1901.	1902.	1903.	1904.	1905.	1906.
First Quarter	290	347	312	307	337	262
Second Quarter	275	333	299	258	271	271
Third Quarter	345	283	264	302	237	280
Fourth Quarter	306	331	344	318	314	248
	1216	1294	1219	1185	1159	1061

PHYSIOGRAPHY AND GEOLOGY.

The following is an abstract of the article on this subject kindly contributed to the Report for 1904 by Mr. Beeby Thompson :—

"The special features of the district are the frequent alternations of pervious and impervious strata, and the exceedingly numerous hills and valleys which prevent accumulation of water where it would stagnate near the surface. Excluding the outlying districts, Northampton stands upon a hill which is at the same time in some sense a peninsula, being surrounded by streams and rivers. These are, on the west, the northern branch of the Nene ; on the south, the Nene ; on the north, a small stream rising between Abington and the Golf Links which runs into the northern branch of the Nene at Kingsthorpe Hollow ; and on the east, another stream starting in a spring on the Wellingborough Road, which joins the Nene near Weston Mill."

"The oldest rock exposed is the Upper Lias clay, and this may be considered the basement rock, though in the lower part of Bridge Street, and for some distance east and west, it is absent, and the River Alluvium rests upon Middle Lias beds. All the brickworks around Northampton use Upper Lias clay. Resting on the Upper Lias clay is the Northampton Sand, a formation on which the larger part of Northampton stands. Above this would come the Upper Estuarine beds of the Great Oolite series, and then the Great Oolite limestone. There is a fairly large patch of the Upper Estuarine beds and fragments of the limestone between Bailiff Street and the Kettering Road. There is also a little boulder clay in the neighbourhood of Clare Street. West and south of the main north to south and east to west roads respectively the higher portions of the slopes are composed of the lowest beds of the Northampton Sand, which are essentially ironstones. North and east of the roads referred to these ironstones are capped by calcareous slaty beds, and over these latter are the so-called white sands."

"Water is obtainable almost anywhere, and there are numerous springs in the surrounding valleys. The best known ones are in Gipsy Lane, the Racecourse, the Scarlet Well, Thomas à Becket's Well, Nine Springs Well, and one in Abington Park."

POPULATION.

The following figures have been obtained from the printed census returns :—

CIVIL PARISH.		Census, 1891.	Census, 1901.	Area in Acres.	Area in Acres, exclusive of water.
St. Giles ..		20202	25443	779	773
St. Sepulchre		19300	17419	272	271
St. Andrew		10625	9485	89	89
All Saints ..		9133	7403	125	121
St. Peter ..		1752	1414	46	43
Kingsthorpe		7636	14099	1020	1013
St. James	Dallington	1979	4566	185	184
	Duston	2174	2553	214	213
Far Cotton		2182	4086	382	370
Abington ..		92	553	357	355
TOTAL ..		75075	87021	3469	3432

The number of persons per acre therefore is as follows :—

CIVIL PARISH.		1891.	1901.
St. Giles		26.13	32.91
St. Sepulchre		71.21	64.28
St. Andrew		119.38	106.57
All Saints		75.48	61.18
St. Peter		40.74	32.88
Kingsthorpe		7.54	13.92
St. James	Dallington	10.75	24.81
	Duston	10.21	11.99
Far Cotton		5.90	11.04
Abington		0.26	1.56
BOROUGH ..		21.88	25.36

The density of the population in the older parts of the Borough diminished during the decennium 1891—1901.

The populations of the Wards at the census in 1901 were as follows :—

WARD.	Population, 1901.	Area in Acres.	Persons per Acre.
St. Michael	13734	159.2	86.27
Castle	11185	142.0	78.77
St. Crispin	11153	114.0	97.83
South	7886	288.4	27.34
North	13781	297.2	46.34
Kingsthorpe	8979	960.0	9.35
St. James	7119	399.3	17.83
Far Cotton	4086	382.2	10.69
St. Edmund	9098	726.7	12.52
Borough	87021	3469.0	25.36

The population of the Wards were not given in the 1891 census report.

It will be observed that the Parish and the Ward of Far Cotton are identical, that the Ward of St. James is identical with the Parishes of Dallington St. James and Duston St. James taken together, but that the Ward of Kingsthorpe differs greatly from the Parish of Kingsthorpe. The difference in the case of Kingsthorpe is due to the fact that the Parish of Kingsthorpe includes the population between Semilong and St. Andrew's Roads, which, in forming the Wards, has been taken from Kingsthorpe and given to the North Ward.

ESTIMATED POPULATION IN 1905. This, the basal figure for all calculations, is most difficult to ascertain with any degree of accuracy. The same four methods have been applied as in the reports for 1904 and 1905.

1. The method of the Registrar-General. In his quarterly report for the middle of the year 1906, the Registrar-General estimates the population at that time as 93,749. His method assumes that the rate of increase since the last census is the same as was the rate of increase during ten years between the last census and that immediately preceding it. He probably, however, makes some allowance unknown to me as a strict application of his method gives a population of 94,032.

2. The second method is based on the number of persons entitled to exercise the municipal franchise, combining with this an estimate of the number of persons in receipt of relief from the guardians, as these are deprived of their votes.

The number of voters on the register for the year commencing November 1st, 1901, was 15,536, while the number for the year commencing

November 1st, 1906, was 15,703, or an increase of 167. These figures have been obtained for me by the courtesy of the Town Clerk. The increase is small, but it is a change from the previous year, when the number was 200 below that in 1901. An estimate of those on relief is of equal importance. By calculation from the figures kindly supplied to me by the Relieving Officers, and adding to these the number of those in the Union Workhouse, it appears that during 1901 there were about 2,470 persons in receipt of relief; while in 1906, owing to the labour yard, and the existence of "scattered homes" for children, the figures rose to 4,569. On these figures the population in the middle of 1906 would appear to be 90,180. This method of calculating by electors, however, does not allow for those who give up their houses and become lodgers; and these, I am informed, are a considerable number.

3. The third method is based on a comparison of the numbers of inhabited houses in 1901 and 1906. The figure for 1901 is given in the census return, viz., 17,602. I have obtained the figure for 1906 through the courtesy of the Borough Accountant, viz., 18,555. This figure, however, refers to the end of the year, and a certain deduction has to be made to refer it to the middle of the year. Allowing for this, and assuming that the density of the population remains the same, the population in the middle of 1906 was 91,319.

4. The fourth method consists simply in adding the natural increase, *i.e.*, the excess of the births over the deaths in each year to the 1901 population, and making a further addition for the second quarter of 1906. This results in a population of 92,043.

The first method probably overestimates the population, as the progress of the borough has not recently been so rapid in many ways as in the decennium 1891—1901. The second method almost certainly underestimates the population for the reasons given. The third method is fairly accurate, but probably underestimates slightly, as the density of the population per house has probably somewhat increased. The fourth method was selected in my last two reports as giving the most probable figure, but there are reasons special to 1906 for reducing it. I am informed by the Mayor (Alderman E. L. Poulton) that there has been a good deal of movement among workers in the boot and shoe trade during the year, as a result of which about 250 workers, or about 500 people in all (including dependants), have left the town, either emigrating to Canada, or migrating to other centres; but that, on the other hand, the opening of one new business and the extension of two others, have caused an influx, and that there is also a steady though not rapid increase in the number of Jews in the town, these latter being chiefly employed in the tailoring trade; this influx may amount to about 100. About 400, therefore, is to be deducted from the figure derived from the natural increase method. In round numbers, therefore, the population in the middle of 1906 was probably about 91,640.

The populations of the Wards have been calculated by the method used in the 1904 Report, and the figures are :—

Ward.	Population 1901.	Voters, 1901.	Voters, 1906	Estimated Population 1906.	Average Number of Persons per Voter.
St. Michael ..	13734	2358	2357	14347	6.09
Castle	11185	1901	1692	10401	6.15
St. Crispin ..	11153	2019	1910	11027	5·77
South ..	7886	1431	1264	7278	5·76
North ..	13781	2353	2253	13769	6.11
Kingsthorpe ..	8979	1677	1874	10484	5·59
St. James ..	7119	1311	1555	8830	5·68
Far Cotton ..	4086	792	917	4948	5·37
St. Edmund ..	9098	1694	1881	10556	5.61
TOTAL ..	87021	15536	15703	91640	5·84

NATURAL INCREASE OF POPULATION. This is the excess of the births over the deaths during the year. In 1906 this excess was 924.

The following table shows this increase for the ten years 1896—1905, and also for 1906 :—

Year.	Population.	Births.	Deaths.	Natural Increase of Population.	Natural Increase per 1000.
1896	61087	1799	979	820	13·4
1897	61102	1752	1042	710	11·6
1898	61117	1694	995	699	11·4
1899	61132	1671	921	750	12·3
1900	61147	1546	951	595	9·7
1901	87021	2345	1216	1129	13·0
1902	88206	2272	1294	978	11·1
1903	89960	2194	1219	985	10·9
1904	90340	2102	1185	917	10·15
1905	91230	1937	1159	778	8·5
1906	91640	1985	1061	924	10·1

Although, therefore, the number of births remains low, the slight improvement in this direction, combined with the diminution in the death-rate, has resulted in a decidedly larger addition to the population from this source than last year, when, however, the rate of natural increase touched the lowest point yet recorded.

BIRTH-RATE. The births registered during the year amounted to 1,985; of these 1,022 were of males, and 963 of females.

The birth-rate was 21.7. This is a slight improvement upon the rate in 1905, being 0.5 higher, but it is 4.3 lower than the average birth-rate of the decennium 1896—1905.

The births registered in the registration district of St. Giles amounted to 1,117, in that of All Saints, St. James, and Kingsthorpe to 750, and in Far Cotton to 118.

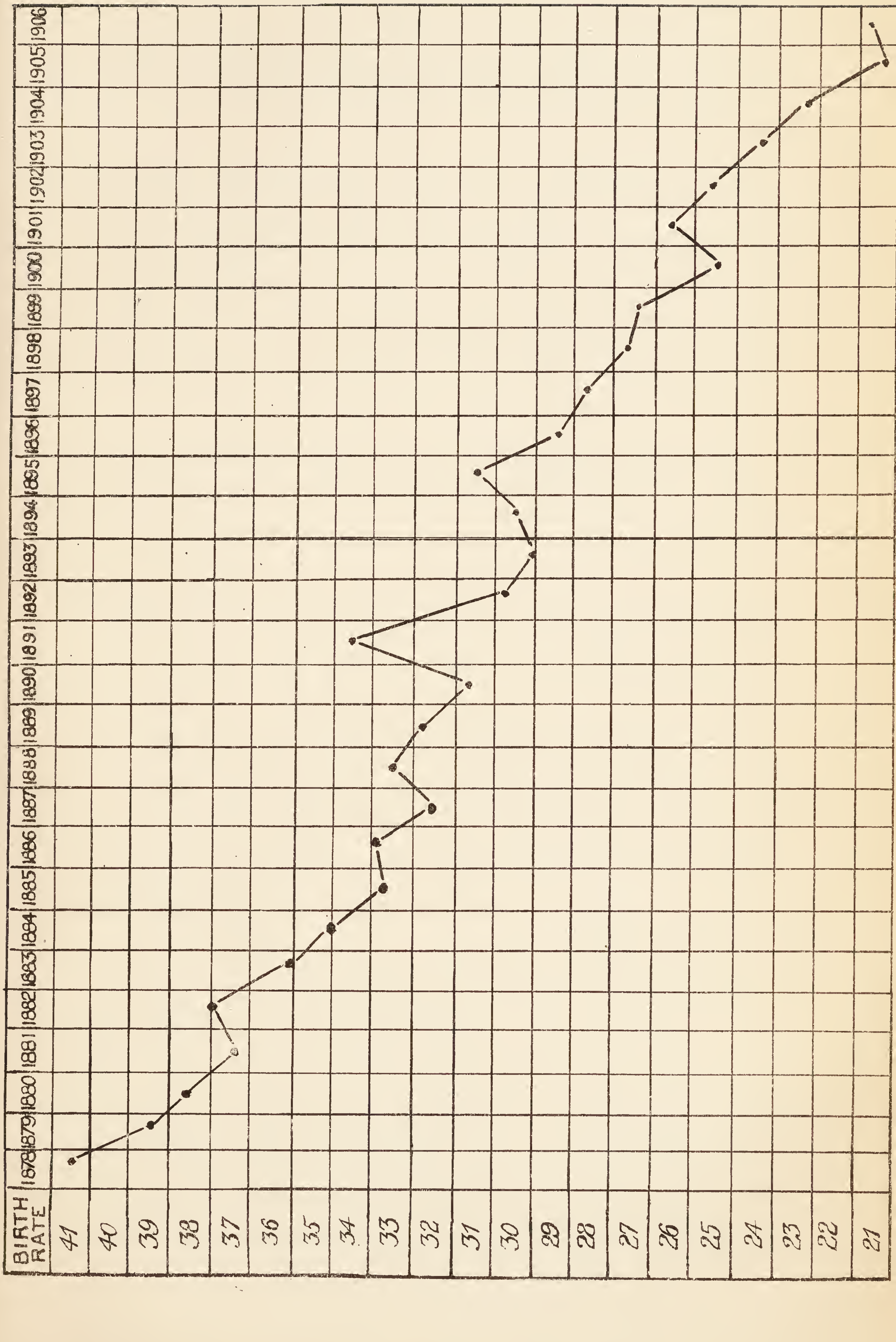
There were 45 illegitimate births registered in the St. Giles' district, or 4.03% of the total births registered there; in the district of All Saints, etc., 18, or 2.40%; in Far Cotton, none. In the whole Borough the number was 63, or 3.17%.

"The birth-rate in England and Wales in 1906 was 27.0 per 1,000 of the population, which is 0.2 per 1,000 below the rate in 1905, and lower than the rate in any other year on record; compared with the average in the ten years 1896—1905, the birth-rate in 1906 shows a decrease of 1.7 per 1,000."—(Registrar-General).

Annual Rate per 1,000 of Births in the Years 1896—1906:—

	1896	1897	1898	1899	1900	1901	1902	1903	1904	1905	1906
England and Wales	29.6	29.6	29.3	29.1	28.7	28.5	28.6	28.4	27.9	27.2	27.0
Northampton ..	29.4	28.6	27.7	27.3	25.2	26.9	25.7	24.4	23.3	21.2	21.7

The table and the accompanying chart show that there has been some improvement in the birth-rate as compared with last year, and that the exceedingly rapid rate of decline shown by the descent from the rate in 1904 to that in 1905 has been somewhat checked. Nevertheless, Northampton still remains among the towns with the lowest birth-rates in the kingdom, and its rate is far below that for the country generally,


BIRTH RATE
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which itself has declined by more than 2 per 1,000 in the decennium. As pointed out before, however, the rate of natural increase has markedly improved.

CORRECTED BIRTH-RATE. Last year I explained that Drs. Newsholme and Stevenson had published factors for various towns, among them Northampton, which, when multiplied into the apparent birth-rates, gave figures which were completely comparable, as the influences of variations in the numbers of married women at child-bearing ages, and of variations among these in the numbers at more or less productive ages, were eliminated. The factor of correction for the legitimate birth-rate for Northampton is 0.9551, and for the illegitimate, 1,020.

The total uncorrected birth-rate is 21.66, which is made up of a legitimate birth-rate of 20.97, and an illegitimate of 0.69. When corrected, these figures are altered to 20.03, and 0.70 respectively, so that the total corrected birth-rate is 20.73, or nearly 1.0 per 1,000 below the very low uncorrected rate.

For comparison it may be mentioned that the standard rate for England and Wales should have been 34.91 ; the standard rate being the rate which would have obtained had the fertility of more normal periods been kept up.

Comment on the falling birth-rate is difficult, as it is so difficult to ascertain the facts which bring it about, but it may be pointed out that a similar fall is noticeable in all communities where the standard of living has improved, and where civilization is progressing. The following figures are taken from the sixty-seventh Annual Report of the Registrar-General, viz., that for 1904 :—

COUNTRY.	Birth-rate in 1880.	Birth-rate in 1904.	COUNTRY.	Birth-rate in 1880.	Birth-rate in 1904.
England and Wales	34.2	27.9	Norway	30.9	28.2
Scotland . .	33.6	28.6	Sweeden . .	29.4	25.8
New South Wales	38-6	26.7	German Empire	37.6	33.9 (1903)
Victoria . .	30.7	24.6	Prussia	37.8	34.7
Queensland . .	36.9	27.1	Austria	37.5	35.1 (1903)
South Australia	40.5	24.9	Hungary . .	42.8	37.0
Western Australia	32.3	30.3	Netherlands . .	35.5	31.4
Tasmania . .	32.9	29.6	Belgium . .	31.0	27.5(1903)
New Zealand	40.8	26.9	France	24.6	20.9
Denmark . .	31.8	28.9	Switzerland . .	29.6	27.7 (1903)

Compare with these countries the following :—

COUNTRY.	Birth-rate in 1880.	Birth-rate in 1904.	COUNTRY.	Birth-rate in 1880.	Birth-rate in 1904.
Ireland ..	24.7	23.6	Bulgaria	33.7 (1881)	39.1 (1902)
Ceylon ..	26.2	38.5	Servia ..	40.7	39.8
Russia ..	48.8	49.0 (1899)	Spain ..	35.5	34.4
Roumania ..	37.7	40.1	Italy ..	33.9	32.6

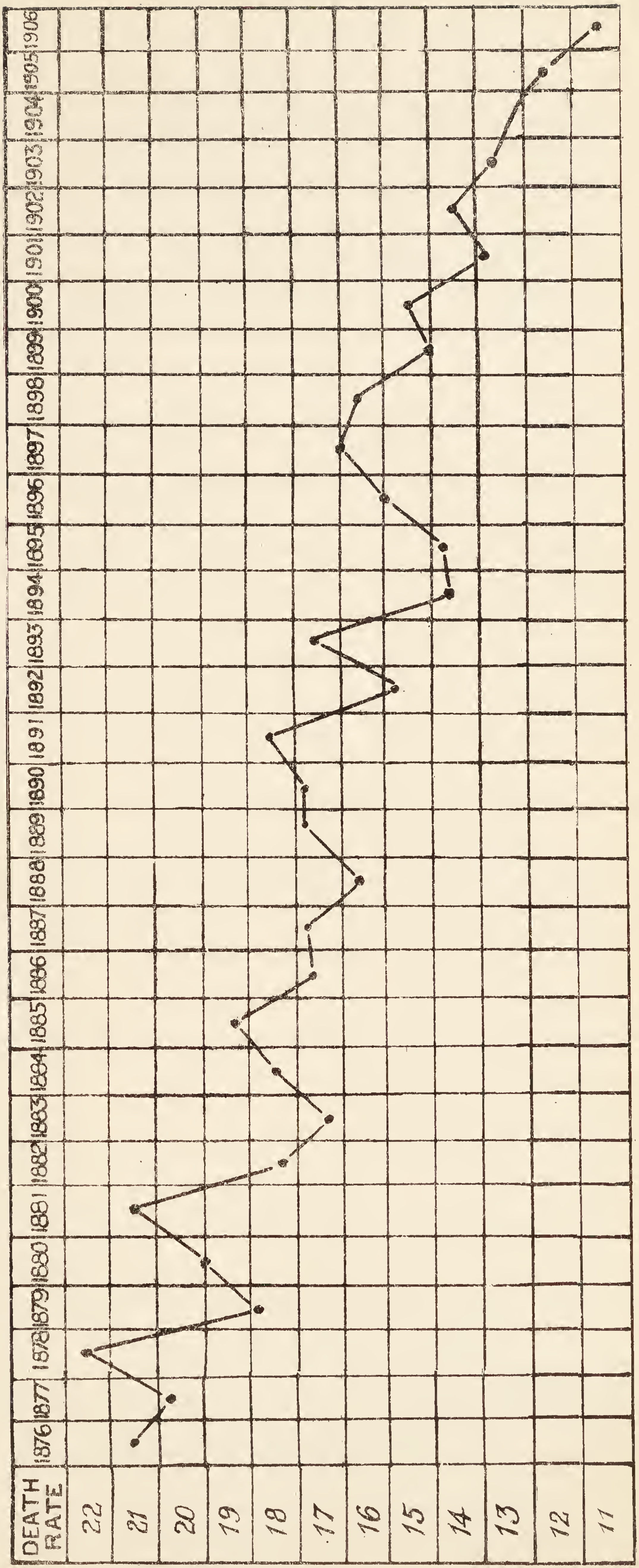
It cannot be said that the second group of countries compare favourably as regards general civilization with the first group, yet in the latter group the birth-rate is either not declining or only slightly.

DEATH-RATE. It gives me much pleasure to be able to state that this rate again shows substantial improvement. Indeed, the death-rate for a town so large as Northampton is remarkably low, and I should think has now reached a figure beyond which much improvement is not possible. The rate for the year will be found to compare favourably with any town of similar size and similar character in the kingdom.

The number of deaths which occurred during the year was 1,061. This figure is obtained by subtracting from the total number reported 77 deaths of non-residents, and adding 22 deaths which occurred in the Borough Hospital, in the Welford Road Hospital, and in Berry Wood Asylum, these being of persons belonging to the town. Four deaths which occurred in the Rural Districts of Northampton and Hardingstone have also been included. Of the 1,061 deaths, 571 were of males, and 490 of females.

The death-rate was 11.6 per 1,000 ; this is less by 1.1 than the death-rate in 1905, and 3.2 below the average annual rate for the years 1896—1905. The rate for 1906 is the lowest on record, but it should be remembered that it is strictly comparable only with the rates of the years 1901—5, for the addition of the outlying districts has had, owing to their low mortality in comparison with the old borough, a favourable influence on the death-rate.

As compared with the year 1905 there is a diminution in the deaths amounting to 98. The following are the principal diseases where there has been a diminution in the mortality—measles, scarlet fever, whooping cough, diphtheria and membranous croup, phthisis, bronchitis, pneu-


DEATH RATE
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monia, apoplexy and hemiplegia, meningitis. On the other hand, the following causes of death show an increased mortality—enteric fever, diarrhœa, enteritis, "other" tubercular diseases, premature birth, accident, senile decay. The mortality from the following causes was practically the same as in 1905—epidemic influenza, cancer, alcoholism and cirrhosis of the liver, heart diseases, suicide, diseases of the brain and nervous system, diseases of the kidney and urinary system, diabetes, marasmus, and convulsions.

The following are the deaths and death-rates in the Wards. These figures have been corrected by the distribution of the deaths in the General Hospital, the Workhouse, the Borough Hospital, the Welford Road Hospital, and Berry Wood Asylum, to the districts from which the patients came as far as possible. In the case of Workhouse deaths, this distribution applies only to those who entered the Workhouse within a year of their deaths ; other deaths have been attributed to St. Michael's Ward, in which the Workhouse is situated. In the case of Berry Wood Asylum only those deaths have been included where the patients entered the Asylum within a year of their deaths. This is only a rough rule to go by, but it seems to me that it would be manifestly incorrect to include the deaths of those who had lived longer in the Asylum as due to causes which had arisen in Northampton.

WARD.	Deaths.	Death-rate.
St. Michael	160	11.15
Castle	145	13.94
St. Crispin	150	13.60
South	105	14.43
North	171	12.42
Kingsthorpe	94	8.97
St. James	106	12.00
Far Cotton	36	7.28
St. Edmund	94	8.91
BOROUGH	1061	11.58

"The death-rate in England and Wales in 1906 was 15.4 per 1,000, which was 0.2 per 1,000 above the rate in 1905 ; compared with the average rate in the ten years 1896—1905, the death-rate in 1906 shows a decrease of 1.4 per 1,000."—(Registrar-General.)

Annual death-rate per 1,000 from all causes during the year 1906 :—

England and Wales	15.4
76 great Towns	15.9
142 smaller Towns	14.5
England and Wales (less the 218 Towns)	15.1
Northampton—On the total deaths registered	12.1
On net deaths	11.6
"Corrected" total death-rate	12.5
"Corrected" net death-rate	12.0

CORRECTED DEATH-RATE. This is the death-rate which the town would have were the age and sex distribution of the population the same as in the country generally. Northampton does not greatly differ in this respect from the country as a whole, and the corrected death-rate, 12.02, does not differ much from the figure previously given. It is obtained by multiplying the recorded rate by the factor 1.0376, which is the factor published by the Registrar-General for correcting the Northampton rate.

OBSCURE DEATHS. The following tables explain themselves. The percentage of uncertified deaths was 1.60. Little reliance can be placed on the causes of deaths given in the case of uncertified deaths, as these do not express the opinion of medical practitioners.

Deaths certified by coroner (causes and ages) :—

	Under 1	1-5	5-15	15-25	25-65	65 & upwds.	Total.
Croup ..	..	1	..	..	..	..	1
Pneumonia ..	..	..	1	..	..	..	1
Pleurisy ..	..	..	..	..	..	1	1
Heart Disease ..	..	..	1	1	8	1	11
Accident ..	8	1	2	4	5	1	21
Suicide ..	..	..	..	..	8	1	9
Apoplexy ..	..	..	..	..	2	1	3
Convulsions ..	..	1	..	..	..	..	1
All other causes ..	1	2	1	1	6	..	11
TOTAL ..	9	5	5	6	29	5	59

Uncertified deaths (causes and ages) :—

	Under 1	1-5	5-15	15-25	25-65	65 & upwds	Total.
Premature Birth ..	3	..	..	..	..	..	3
Heart Disease ..	..	..	..	..	2	1	3
Apoplexy	..	..	..	..	..	1	1
Senile Decay	..	..	..	..	..	1	1
Convulsions	7	..	..	..	..	..	7
All other causes ..	2	..	..	..	..	..	2
TOTAL ..	12	..	..	..	2	3	17

INFANT MORTALITY RATE. This expression signifies the rate of deaths among children under twelve months of age per 1,000 births. During the year 240 deaths were registered of these infants, and, as there were 1,985 births, the rate is 120.9. This rate is lower by 2.5 than the rate in 1905, and is the lowest rate yet recorded, the year most nearly approaching it being 1905.

" The rate of mortality among infants under one year of age to 1,000 registered births was 133, which is 5 per 1,000 above the rate in 1905. Compared with the average in the ten years 1896—1905, the rate of infantile mortality shows a decrease of 14 per 1,000."—(Registrar-General.)

TABLE SHOWING THE INFANT MORTALITY RATES FOR THE YEARS 1878—1905, AND THE BIRTH-RATES FOR THE SAME YEARS.

Year.	Birth-rate per 1000 of the Population.	Deaths of Infants per 1000 Births.	Year.	Birth-rate per 1000 of the Population.	Deaths of Infants per 1000 Births.
1878	41.3	188.4	1893	30.0	173.1
1879	39.2	139.7	1894	30.3	136.1
1880	38.6	149.6	1895	31.5	145.8
1881	37.2	150.3	1896	29.4	150.6
1882	38.0	161.8	1897	28.6	184.3
1883	36.0	132.2	1898	27.7	181.2
1884	35.2	186.3	1899	27.3	151.4
1885	33.6	155.1	1900	25.2	144.8
1886	33.9	153.5	1901	26.9	142.4
1887	32.4	174.8	1902	25.7	132.4
1888	33.5	146.3	1903	24.4	137.2
1889	32.9	176.4	1904	23.3	132.7
1890	31.7	174.7	1905	21.2	123.4
1891	34.5	164.2	1906	21.7	120.9
1892	30.6	145.4	..	..	..

On a superficial view the figures for the year are satisfactory. The rate is 2.5 below that of 1905, the previous best year, and considerably below the average for the years since 1901, with which alone it can properly be compared. A comparison, however, with the figures for 1905, is not so satisfactory. A diminution certainly is shown in measles from 6 to 0 ; in whooping cough from 9 to 3 ; in bronchitis from 20 to 10 ; and in pneumonia from 19 to 6 ; but on the other hand, diarrhœal causes of death have increased from 39 to 67 ; premature birth from 26 to 31 ; and " other " causes from 17 to 34. Again, the total number of deaths is almost exactly the same as in 1905, viz. :—240, as compared with 239. Finally, a state of affairs in which over 12% of those born die during the first year of life cannot be considered a matter for congratulation. I have, therefore, studied the figures as in former years with a view of detecting the causes of these unfortunate facts.

The information available in the death returns has been analysed, and the results are shown in the two following tables, the first of which shows the most usual causes of death during the last eleven years, and the second a complete list of the causes of death among infants, with the dates in months after birth at which the deaths took place—in the case of the first month giving also the dates in weeks. A similar table to this latter is now required by the Local Government Board, and will be found at the end of the report.

DEATHS OF INFANTS.

CAUSE.	1896	1897	1898	1899	1900	1901	1902	1903	1904	1905	1906
Marasmus, Debility, and Atrophy	65	61	70	54	48	?	63	55	54	51	53
Convulsions	35	33	21	30	15	?	?	29	29	20	17
Bronchitis and Pneumonia ..	41	54	26	39	45	30	51	56	26	45	14
Whooping Cough	5	30	10	7	7	19	12	14	2	9	3
Measles	18	1	15	1	5	1	10	4	1	6	..
Premature Birth	33	49	47	34	25	53	40	52	55	26	30
Diarrhœa, Enteritis and Gastritis	35	52	58	51	28	85	46	47	60	39	68
All other causes	39	43	60	37	51	147	79	44	52	43	55
TOTAL	271	323	307	253	224	335	301	301	279	239	240
TOTAL BIRTHS	1799	1752	1694	1671	1546	2345	2272	2194	2102	1937	1985
INFANT MORTALITY RATE ..	150.6	184.3	181.2	151.4	144.8	142.4	132.4	137.2	132.7	123.4	120.9

INFANTILE DEATHS UNDER ONE YEAR.

DISEASES.	1 and under 8 days.	8 and under 15 days.	15 & under 22 days.	22 & under 1 mon.	1 & under 2 mon.	2 & under 3 mon.	3 & under 4 mon.	4 & under 5 mon.	5 & under 6 mon.	6 & under 7 mon.	7 & under 8 mon.	8 & under 9 mon.	9 & under 10 mon.	10 & under 11 mon.	11 & under 12 mon.	Total.
1. Influenza	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	1
2. Pertussis	..	..	..	..	..	..	..	..	1	..	..	..	..	..	2	3
3. Diarrhœa	..	1	1	..	..	..	2	3	3	..	1	1	..	..	2	14
4. Epidemic Diarrhœa ..	..	..	..	..	..	1	2	1	..	1	1	..	1	..	..	7
5. Epidemic Enteritis	..	..	..	..	2	1	4	1	2	1	2	..	..	..	1	14
6. Choleraic Diarrhœa ..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	1
7. Gastro Enteritis	..	..	..	..	..	1	2	1	..	..	1	1	1	..	..	7
8. Gastro Intestinal Catarrh ..	..	..	..	..	..	2	4	3	2	2	3	1	3	1	..	21
9. Gastric Catarrh	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	1
10. Gastritis	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	1
11. Thrush. Diarrhœa	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	1
12. Dentition Diarrhœa ..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	1
13. Premature Birth	19	4	5	1	..	1	..	..	..	..	..	..	..	..	..	30
14. Pulmonary Collapse ..	4	1	..	1	..	..	..	..	..	..	..	..	..	..	..	6
15. Imperfect Circulation ..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
16. Atelectasis	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2
17. Prolonged Labour	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
18. Congenital Defects	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	1
19. Want of Breast Milk ..	..	..	..	..	2	1	..	2	..	..	..	..	..	..	..	5
20. Marasmus	..	..	..	2	5	6	2	3	4	1	2	3	1	..	1	30
21. Malassimilation	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	1
22. Debility	2	..	1	..	..	..	..	..	..	1	..	..	..	..	..	4
23. Congenital Debility	1	..	..	..	..	1	..	..	..	..	..	..	..	..	..	2
24. Infantile Atrophy	..	..	..	..	..	..	1	1	1	..	..	..	..	..	..	3
25. Deficient Vitality	5	2	..	..	1	1	..	..	..	..	..	..	..	..	..	9

26.	Inanition	1	..	1	1	..	..	..	..	..	..	1	..	..	..	..	4
27.	Thrush, Inanition	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	1
28.	Erysipelas	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	1
29.	Phthisis	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1
30.	Tuberculosis	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	1
31.	Tubercular Meningitis ..	..	..	..	..	..	..	..	..	..	1	1	..	..	..	..	2
32.	Tubercular Peritonitis ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1
33.	Tubercular Abscesses ..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	1
34.	Rickets	..	..	..	..	..	..	..	1	1	..	1	..	..	..	..	3
35.	Meningitis	..	..	..	..	1	..	..	3	..	..	..	2	..	..	..	6
36.	Convulsions	3	..	1	..	2	1	1	1	1	..	..	1	..	..	1	12
37.	Dentition Convulsions ..	..	..	..	..	..	..	..	..	..	1	1	..	..	1	2	5
38.	Bronchitis	..	..	..	..	..	1	..	..	2	1	1	..	1	1	..	7
39.	Acute Bronchitis	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	1
40.	Broncho Pneumonia ..	..	..	..	..	1	..	..	1	..	..	1	..	1	..	..	4
41.	Acute Lobar Pneumonia ..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	1
42.	Pneumonia	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	1
43.	Accidental Death	..	..	..	..	..	1	1	1	..	..	..	..	..	..	..	3
44.	Accidentally Suffocated ..	..	..	..	..	2	2	..	..	..	..	..	..	..	..	1	5
45.	Intussusception	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	1
46.	Icterus Neonatorum ..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
47.	Hydrocephalus	..	..	..	..	..	..	..	..	..	..	..	2	..	1	..	3
48.	Cardiac Disease	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	1
49.	Hæmoptysis	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
50.	Abscesses	..	..	1	..	1	..	..	..	..	..	..	..	..	..	..	2
51.	Gonorrheal Ophthalmia ..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	1
52.	Cerebral Irritation	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	1
53.	Spina Bifida	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	1
54.	Natural Causes	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	1
	TOTALS	41	10	10	5	24	22	21	23	20	12	16	11	9	5	11	240

Before examining the figures in detail it is important to remember that a high mortality is to be expected at the extremes of life. In the old this is obvious, in the young it is because many children, when born, are not capable of continued life. The following table shows the death-rates at various periods of life in Northampton during the year 1906, assuming that the age distribution of the population was the same as in 1901. The population under one year has been reckoned as the same as the births of the year, and the difference between this and the calculated population, or 171, has been added to the population over one year and under five years.

Age.	Estimated Population, 1906.	Death-rate.
Under 1 year	1985	120.90
1 and under 5	8656	8.32
5 ,, ,, 15	20234	2.32
15 ,, ,, 25	18591	3.01
25 ,, ,, 65	38335	8.56
65 and over	3839	82.83
BOROUGH	91640	11.58

The deaths of infants are divisible into deaths unavoidable under present conditions, and those more or less avoidable.

A.—Deaths unavoidable under present conditions :—

From developmental defects, Nos. 13—16, 18, 23, 25, 26, 48, 53	57
,, specific fevers, Nos. 1, 2, 28	5
,, the tuberculosis group, Nos. 29—33, 36	12
Miscellaneous, Nos. 17, 27, 34, 43—47, 49, 50, 52, 54	23
Deaths under one month, not previously included	11
	108

The specific fevers, tuberculosis and miscellaneous diseases are included in this group because these diseases affect the population as a whole, and will therefore cause a certain number of deaths among infants. Children under one month old may be considered incapable of opposing much resistance to disease.

B.—Deaths more or less avoidable :—

From diseases more or less influenced by diet, Nos. 3—12, 19, 20—22, 24	104
,, diseases of the lungs, Nos. 38—42	14
,, doubtful diseases, Nos. 36, 37	13
Miscellaneous, No. 51	1
	132

In the above table deaths under one month have been excluded. Convulsions are symptomatic of disease, and are, therefore, classified as doubtful diseases.

As compared with last year there is an increase in deaths from developmental defects and a great increase in deaths from dietetic diseases, but a great diminution in deaths from diseases of the lungs.

Turning now to the investigations of the Health Visitor, who enquires into all deaths of infants under one year, omitting those under one month old, and a few others for various reasons, it appears that of the 240 deaths registered, 66 occurred under the age of one month, and of the remainder 159 were investigated. Of deaths of infants over the age of one year, 11 investigations were made.

The 159 cases covered the following causes of death :—

Diarrhœa	24	Want of breast milk ..	5
Epidemic enteritis ..	14	Malassimilation	1
Gastro-enteritis	8	Debility	2
Gastro-intestinal catarrh	20	Atrophy	3
Gastric catarrh	1	Deficient vitality.. ..	1
Gastritis	1	Inanition	2
Meningitis	7	Erysipelas	1
Bronchitis	7	Tubercular peritonitis ..	1
Pneumonia	6	Tuberculosis	1
Convulsions	13	Rickets	3
Marasmus	28	Accident	4
Influenza	1	Hydrocephalus	3
Whooping Cough ..	3	Miscellaneous	4
Premature birth ..	1		

The following tables show the monthly prevalence of the diseases named, and various circumstances of the lives of the infants. These may be subject to some revision, as in the course of the investigations facts came to light which pointed to the view that the cause of death given may have been subordinate to another cause. The following were accompanied by severe diarrhœa, to which the fatal result may have been, at any rate, partly due—one case of gastric catarrh, one of gastritis, one of meningitis, three of convulsions, seven of marasmus, one of want of breast milk, one of deficient vitality, and one of cerebral irritation. In one case of bronchitis, whooping cough appears to have been present, and in one case of rickets, bronchitis.

Diarrhœa will be treated separately in a later part of this report, and the facts above-mentioned allowed for.

Disease.	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
Marasmus....	3	3	2	3	2	2	1	1	5	2	3	3	30
Convulsions ..	..	1	1	2	3	2	2	2	3	..	1	..	17
Pneumonia ..	1	3	..	1	1	..	..	..	..	..	..	..	6
Bronchitis ..	2	1	2	..	..	1	..	1	..	1	..	..	8
Meningitis ..	1	..	2	..	..	..	..	2	1	..	..	..	5
Diarrhœa ..	1	1	..	..	..	1	3	22	33	6	1	..	68

The following table gives the character of the feeding, the physique, and the surroundings of the cases :—

DISEASE.	FEEDING.					BOTTLE.		Milk Boiled.	PHYSIQUE.			HOUSE.				Mother weak.	Total of Cases.
	Breast fed.	Breast and spoon & sop.	Breast first, later, bottle.	Bottle.	Not ascertained.	Long tube.	Boat shape.		Good.	Fair.	Poor or Puny.	Clean.	Dirty.	Comfortable.	Poor.		
Marasmus	5	3	8	10	4	12	8	14	7	3	16	19	7	7	19	12	26
Convulsions	3	3	2	4	5	4	2	4	8	..	4	10	2	2	10	4	12
Pneumonia	1	..	4	1	..	5	..	1	3	3	..	5	1	3	3	..	6
Bronchitis..	4	..	2	1	..	2	1	3	5	..	2	7	..	4	3	1	7
Meningitis..	2	..	1	4	..	4	1	5	3	1	3	6	1	4	3	2	7
Diarrhœa ..	2	6	32	25	3	36	22	52	36	5	24	61	4	31	34	5	65

The inferences to be drawn from this year's tables agree on the whole with those of last year, and need not be repeated. The most striking point is the increase in the use of the boat-shaped bottle relatively to the "long tube" bottle. The former appears to have been much more used than in former years. That it, however, will not prevent deaths, is indicated by the considerable proportion of deaths in which it was in use. It might be inferred from the figures that it was a failure, but this could only be determined by knowing in how many cases altogether it was used, whether these have died or survived. I have no figures at my disposal showing this.

As in former years, filth did not appear to be an important predisposing cause of disease ; but this year there appears to be a certain relation between poverty and disease which did not appear in the tables of previous years.

Of the 159 cases investigated, 29 were breast-fed entirely, while 58 were fed only with the bottle or with the bottle and sop of bread or biscuit. In 16 cases this sop was given to infants under the age of six months.

Patent foods, which should never be used except under medical advice, were given in 31 cases, some of which were not medically superintended. Condensed milk appears to have been used in 19 cases, but apparently not skimmed condensed milk. From investigations made elsewhere, there is evidence that condensed milk cannot be used as a substitute for fresh cow's milk in the feeding of children.

There appears to be an improvement in the management of bottle feeding, which, I think, may be in part put down to the printed instructions issued by this department, reinforced by the personal instruction, in some cases, of the Health Visitor. Miss Gough reports that " the cleansing of bottles was found to be a very regular thing, hot water, or hot soda and water being used, and the bottle kept soaking in clean cold water until again required."

Last year I advocated the appointment of an additional Health Visitor, who, with the present Visitor, could approach mothers while their children are still living. There appears to be additional reason this year, for while all other sections of the community had a healthy year, the mortality among infants did not diminish, at any rate, to any degree of importance; it was practically stationary. That Health Visitors can have an important effect upon the mortality among infants is proved by the following table, for which I am indebted to Dr. Sykes, the Medical Officer of Health of the Metropolitan Borough of St. Pancras. He states that " the measures pursued in St. Pancras have been the discouragement of the artificial feeding of infants of suckling age, and the encouragement of natural or breast-feeding, by prompt advice and the personal influence of women inspectors and women voluntary visitors." His efforts were commenced in 1904. " The interesting point to bear in mind is," says Dr. Sykes, " that the lowering of the infantile mortality has been accomplished without the municipal distribution of milk, the Borough Council not having established a milk depot, and no such depot existing in the Borough, and that the fall in the mortality rates must be mainly attributed to the diminished use of cows' milk for infants, and the increase of breast-feeding."

	1904. Third Quarter, July, Aug., Sept.	1906. Third Quarter, July, Aug., Sept.
St. Pancras	232	163
London	208	191
76 Large Towns ..	229	209
England and Wales ..	190	176

The figure for the third quarter of the year 1906 in Northampton was the same as that for London generally, viz., 191, although the rate for the whole year was only 121. This figure, though lower than the average of 76 great towns, is higher than the rate for the country generally. There is, therefore, great room for improvement in Northampton.

Table showing the Comparative Mortality of Northampton with other towns of similar size.

TOWNS.	Estimated Population 1906.	Death-rate.	Birth-rate.	Infant Mortality Rate.	Death-rates per 1000 Persons from								
					Measles	Scarlet Fever	Whooping Cough.	Diphtheria.	Enteric Fever.	Diarrhœa.	Phthisis	Other Tuberc'lar Diseases.	Cancer.
Blackburn	133583	16.4	25.6	156	0.47	0.24	0.12	0.19	0.11	1.28	0.92	0.58	0.80
Bootle	68000	17.3	31.9	143	0.64	0.20	0.44	0.16	0.10	1.22	1.26	0.33	0.79
Brighton	128095	14.4	22.3	111	0.22	0.02	0.17	0.10	0.02	0.55	1.42	0.58	1.27
Burnley	102914	19.7	27.6	213	1.13	0.11	0.26	0.11	0.10	2.48	1.36	0.53	0.70
Coventry	83900	14.9	28.0	143	0.01	0.06	0.45	0.14	0.03	1.68	1.01	0.47	0.81
Derby	123981	14.0	25.0	114	0.01	0.03	0.23	0.51	0.08	0.63	0.91	0.45	0.74
East Ham	129886	11.5	28.1	127	0.24	0.14	0.18	0.20	0.06	1.15	0.93	0.36	0.56
Halifax	108000	15.5	19.2	118	0.49	0.05	0.05	0.38	0.03	0.28	1.12	0.39	0.94
Hornsey	86877	8.7	18.5	85	0.20	0.06	0.04	0.14	0.05	0.47	0.51	0.16	0.74
Huddersfield ..	94862	17.3	24.2	135	0.63	0.06	0.33	0.13	0.09	0.72	1.25	0.40	1.13
Ipswich	71809	14.9	26.3	146	..	0.02	0.08	0.13	0.05	1.15	1.14	0.41	1.05
King's Norton ..	72608	10.0	29.7	91	0.08	0.09	0.23	0.07	0.01	0.33	0.63	0.26	0.56
Newport	74227	16.6	32.4	147	0.20	0.08	0.33	0.14	0.05	1.03	1.09	0.37	0.76
Norwich	117958	16.7	26.0	176	0.83	0.09	0.16	0.22	0.09	1.40	1.64	0.79	1.11
Preston	116399	19.2	28.5	200	1.04	0.13	0.09	0.14	0.18	1.61	1.04	0.86	0.79
Reading	79559	12.8	23.6	115	..	..	0.43	0.50	0.02	0.91	0.93	0.39	0.93
St. Helens	91153	17.2	33.9	157	0.10	0.04	0.05	0.26	0.21	1.32	1.21	0.84	0.29
Southampton ..	117312	13.2	24.8	113	..	..	0.30	0.20	0.06	0.82	1.31	0.43	0.86
South Shields ..	111402	17.8	31.7	150	0.97	0.05	0.35	0.27	0.08	1.14	1.48	0.68	0.64
Stockport	99646	19.4	26.9	186	0.70	0.03	0.35	0.08	0.09	1.77	1.25	0.60	0.96
Swansea	100690	17.9	31.9	156	0.27	0.00	0.50	0.07	0.09	0.82	1.47	0.64	0.89
Wigan	89342	17.6	32.7	160	0.50	0.05	0.03	0.06	0.30	1.55	1.20	0.44	0.51
Wolverhampton ..	100867	14.7	27.4	140	0.27	0.16	0.19	0.22	0.07	1.28	0.79	0.46	0.81
York	83467	13.7	26.5	124	0.18	0.08	0.20	0.15	0.16	0.94	1.06	0.45	0.87
NORTHAMPTON ..	**91640**	**11.6**	**21.7**	**121**	..	**0.05**	**0.08**	**0.07**	**0.10**	**1.02**	**0.87**	**0.33**	**0.87**

CANCER AND OTHER MALIGNANT DISEASES.—The number of deaths registered was 80, and the rate of mortality 0.87. The number of deaths and the death-rate are practically the same as last year, so that the mortality from this cause is about stationary. It will be observed from the following table that the rates in 1899, 1902, and 1903, were also about the same point, and the same applies to the year 1895.

YEAR.	1896	1897	1898	1899	1900	1901	1902	1903	1904	1905	1906
Number of Cases	35	40	32	52	44	52	76	86	67	83	80
Rate	0.57	0.65	0.52	0.85	0.72	0.60	0.86	0.96	0.74	0.91	0.87

TUBERCULAR DISEASES.—The tables for the year show that 80 deaths were due to pulmonary phthisis, these adding to the death-rate to the extent of 0.87.

It may be pointed out that for the first time in 1906 the number of deaths due to pulmonary phthisis was the same as the number due to cancer and other malignant diseases. In previous years the deaths from phthisis were always greatly in excess of those due to malignant disease.

The deaths from tubercular diseases other than pulmonary phthisis amounted to 31; the death-rate from this cause being 0.34 per 1,000 of the population.

The death-rate from phthisis was by far the lowest rate on record since 1876, the first year of which I have record. For the first time the rate has sunk below 1 per 1,000.

The death rate from other tubercular diseases was 0.08 greater than in 1905. If all deaths from meningitis under 15 be included in this category, whether specifically stated to be due to tuberculosis or not, the death-rate from this cause would be 0.51 per 1,000, or 0.01 greater than in 1905.

Annual death-rates per 1,000 from phthisis pulmonalis, and other tubercular diseases in the 31 years 1876—1906.

Year.	Phthisis.	Other Tubercular Diseases.	Year.	Phthisis.	Other Tubercular Diseases.	Including meningitis under 15
1876	2.06	0.57	1892	1.63	0.40	
1877	2.00	0.49	1893	1.68	0.34	
1878	2.13	0.63	1894	1.52	0.14	
1879	1.92	0.56	1895	1.17	0.26	
1880	1.58	0.33	1896	1.32	0.11	
1881	1.96	0.26	1897	1.32	0.39	
1882	1.89	0.26	1898	1.88	0.45	
1883	1.92	0.18	1899	1.43	0.29	
1884	1.16	0.19	1900	1.42	0.29	
1885	1.69	0.15	1901	1.21	0.16	
1886	1.70	0.30	1902	1.42	0.29	0.47
1887	1.53	0.53	1903	1.26	0.30	0.47
1888	1.51	0.47	1904	1.15	0.25	0.44
1889	1.72	0.36	1905	1.09	0.26	0.50
1890	1.56	0.33	1906	0.87	0.34	0.51
1891	1.83	0.40				

Five Year Averages :—

	Phthisis.	Other Tubercular Diseases.
1876—1880 ..	1.93 ..	0.51
1881—1885 ..	1.81 ..	0.20
1886—1890 ..	1.60 ..	0.39
1891—1895 ..	1.56 ..	0.30
1896—1900 ..	1.45 ..	0.30
1901—1905 ..	1.23 ..	0.25
1906 ..	0.87 ..	0.34

The following table shows the death-rates from phthisis in the various Wards in 1906 :—

St. Michael.	Castle.	St. Crispin.	South.	North.
0.84	1.25	1.27	0.82	1.16
Kingsthorpe.	St. James.	Far Cotton	St. Edmund.	BOROUGH.
0.48	0.91	Nil.	0.57	0.87

Occupational Mortality.

The following list shows the occupations followed by those who died of phthisis during the year. Last year, lasters headed the list, but this year that place is taken by clickers.

OCCUPATIONS.	Under 1 year.	1 to 5.	5 to 15.	15 to 25.	25 to 65.	65 &c.	Totals.
Males.							
Clickers	..	..	..	3	5	..	8
Lasters	..	..	..	..	7	..	7
Finishers	..	..	..	..	2	..	2
Machine Sewers	..	..	..	3	..	..	3
Pressman	..	..	..	1	..	..	1
Rough stuff dept.	..	..	..	..	1	..	1
Greengrocer	..	..	..	1	..	..	1
Market gardener	..	..	..	..	1	..	1
Gardener	..	..	..	..	1	..	1
Groom	..	..	..	..	1	..	1
Drayman	..	..	..	..	1	..	1
Sawyer	..	..	..	..	1	..	1
Carpenter	..	..	..	..	1	..	1
Plasterer	..	..	..	..	1	..	1
House Decorator	..	..	..	..	1	..	1
Publican	..	..	..	..	1	..	1
Hairdresser	..	..	..	..	1	..	1
Soldier	..	..	..	..	1	..	1
Newsagent	..	..	..	..	1	..	1
Commercial traveller	..	..	..	..	1	..	1
Sign and ticket writer	..	..	..	1	..	..	1
Labourer, general	..	..	..	..	1	..	1
Porter, ,,	..	..	..	1	..	..	1
Dealer, ,,	..	..	..	..	1	..	1
Clerk	..	..	..	2	..	..	2
Shop assistant	..	..	..	..	1	..	1
Caretaker of club	..	..	..	..	1	..	1
School	..	..	1	..	..	..	1
Nil	1	..	..	..	..	1	2
	1	..	1	12	32	1	47

OCCUPATIONS.	Under 1 year.	1 to 5.	5 to 15.	15 to 25.	25 to 65.	65 &c.	Totals.
Females.							
Housewives and with other occupations	..	..	..	1	16	..	17
Housework (single)	..	..	1	1	2	..	4
Fitters	..	..	..	3	..	..	3
Skiver (machine)	..	..	..	1	..	..	1
Boxmaker	..	..	1	..	1	..	2
Machinist, Pinafore factory	..	..	..	1	..	..	1
Sewing girl, ,, ,,	..	..	1	..	..	..	1
Waitress	..	..	..	..	1	..	1
Charing & field work	..	..	..	1	..	..	1
School	..	1	1	..	..	..	2
	..	1	4	8	20	..	33

Preventive Measures.—Voluntary notification of cases of phthisis came into operation in Northampton on October 1st, 1900. The methods of investigation of the cases notified, and the measures adopted to control the disease have been described in previous reports.

A great increase has taken place in the number of cases notified. This is undoubtedly due to the facilities which have been provided by the Corporation for the treatment of the disease. A reason is given to medical men for notifying cases which they did not possess previously. Instead of notification being looked on as the prelude of inquisitorial methods by the Health Department, it has been in many cases eagerly asked for by the patients with a view to their treatment.

The following table shows the notifications compared with the deaths :—

	Cases notified.	Deaths from phthisis registered.
1900 ..	52 (3 months)	87 (whole year)
(Borough extended Nov., 1900.)		
1901 ..	44 ..	104
1902 ..	34 ..	126
1903 ..	55 ..	114
1904 ..	71 ..	104
1905 ..	67 ..	99
1906 ..	125 ..	80

Of the 125 cases notified during the year 30 died within the year, and among previously notified cases 20 died. Therefore, of the 80 deaths, 50 were of cases known to me to exist. The percentage of deaths among notified cases to all deaths was 62.5. This is the highest figure yet recorded, but the conditions are far from ideal when there can be 30 deaths of unnotified cases, or 37.5%.

The following is a statement of the result of investigations made into all notified cases, and also into all deaths.

	Males.	Females.	Total.
Number of cases notified	81	44	125
Number of deaths of cases not notified ..	16	14	30
	97	58	155
Number of deaths among cases notified in 1906 or previously	25	25	50
Number of deaths among all cases	41	39	80

The following tables classify results from the investigation of all cases :—

DURATION OF ILLNESS :—

Under 6 months	31
Over 6 months and under 1 year	32
,, 1 year ,, 2 years	26
,, 2 years ,, 3 ,,	28
,, 3 ,, ,, 4 ,,	8
,, 4 ,, ,, 5 ,,	11
,, 5 ,, and upwards	14
Not ascertained	5
	155

It is evident from this table that this department does not get information of a case till long after he is in a very infectious condition.

HABITS :—

Total abstainers	51
Temperate	87
Probably intemperate	4
Heavy drinkers	9
Not ascertained	4
	155

The above table depends for its accuracy on the statements of the patients and their friends, and must be taken with a certain amount of reserve.

PHYSIQUE OF FAMILY :—

Good	102	Poor	10
Fair	38	Not ascertained	5

POVERTY :—

In 16 cases it appeared that privations of various sorts had been endured.

OVERCROWDING :—

None was found.

CONDITION :—	Males.	Females.	Total.
Single	45	34	79
Married	49	23	72
Widows and widowers	1	2	3
Not ascertained	1	..	1
	96	59	155

ISOLATION OF CASES :—

Number having separate beds	24
,, ,, ,, and bedrooms	50
No isolation	77
Not ascertained	4
	155

Only those having separate bedrooms can be considered isolated to any extent ; the remainder must be looked on as spreading the disease at least up to the time of investigation. When the case becomes known to us every effort is made to induce the patient to occupy a separate bedroom if possible.

PREVIOUS ILLNESSES :—

Influenza	60	Rheumatic fever	8
Pneumonia	9	Rheumatism	1
Bronchitis	7	Inflammation of bowels	2
Bronchial catarrh	2	Diarrhœa	2
Catarrh	5	Dysentery	1
Asthma	3	Tubercular enteritis	1
Pleurisy	25	Swollen glands	2
Inflammation of the lungs	4	Quinsy	4
Congestion of the lungs	1	" Ulcerated throat " and enlarged tonsils	1
Hæmorrhage from the lungs	21		
Measles	20	Anæmia	10
Whooping cough	7	Indigestion	2
Scarlet fever	19	Heart disease	1
Enteric fever	8	Chorea	1
Typhus fever	1	Congestion of liver	1
Diphtheria	2	Gangrene of mouth	1
Rickets	1	Jaundice	1
Debility	1	Fistula	2
Appendicitis	1	Erysipelas	4
" Abscesses "	4	" Colds "	23

Bad confinements and miscarriages	12
No definite illness	17
Not ascertained	5

Of these illnesses, pleurisy, hæmorrhage from the lungs, tubercular enteritis, swollen glands, and possibly anæmia and fistula, are evidences of the existence of tubercular mischief rather than previous illnesses.

Among the others, influenza, diseases of the lungs, measles, and whooping cough, probably act by weakening the lungs and making them more fit for the reception and growth of the germs of the disease. It is important to note how frequently influenza is met with in the previous history of these cases; while making due deduction for mistaken diagnoses, the point remains that influenza, in virtue of its sequelæ, is a very serious disease. Bad confinements and miscarriages apparently act by loss of blood, this causing general weakening. Of the other previous illnesses the only ones of importance are scarlet fever and rheumatic fever; the way in which these act is obscure.

Occupations :—

Clicker	16	Clerk	4	Errand boy	1
Laster (hand)	13	Photographer	1	Machine ruler	1
Finisher (hand)	11	Compositor	1	Machine feeder	1
,, (machine)	3	Sawyer	1	Fitter	6
Sewer	4	Butcher	1	Knot tier	1
Rand tacker	1	Shop assistant	1	Shoe machinist	2
Rivetter	2	General dealer	1	Pinafore machinist	3
Rough-stuff man	1	Labourer	1		
Skiver (machine)	2	Bricklayer	1	Sewing girl	1
Heeler (machine)	1	Coach painter	1	Tailoress	1
Pressman	3	Hairdresser	2	Waitress	2
Currier	3	Market gardener	1	Box maker	1
Cordwainer	1	Gardener	1	Charing & field work	1
Foreman laster	1	Groom	1		
Time-keeper	1	Sign & ticket writer	1	House work	5
Carter and carman	4	Caretaker of club	1	Housewives	25
Carpenter	1	Publican	1	School	7
Plasterer	1	Navy stoker	1	Nil	4
House decorator	1	Soldier	1		

Of the clickers one had formerly been a publican. Among the housewives' former occupations were shoework 6, tailoress 1, upholstery 1, washing 1, charing 4, dressmaker 1.

Causes of the Disease.

These are classified into probable, possible, and doubtful.

Probable :—

Father	3	Father or sister	1
Mother	1	Brother-in-law	1

Brother	9
Sister	8
Son	1
Daughter	2
Husband	1
Wife	2
Uncle	1
Aunt	1
Sister-in-law	1
Cousin	3
Family saturated with the disease	4
Companion	3
Work fellow or half-brother	1
Work-fellows	11
Neighbour	3
Work	1

POSSIBLE :—

Parents	1
Father	2
Mother	2
Brother	1
Brother or sister	1
Sister or habits	1
Wife's sister	1
Family	1
Companion	1
Neighbour	1
Neighbour or cousin	1
Workfellows	3
Old focus brought out by illness	2
Habits	2
Work	2

DOUBTFUL :—

Grandfather	1
Brother	1
Sister	1
Work-fellow or brother-in-law	1
Companion	1
Neighbour	3
Habits or neighbour	1
Habits or work-fellow	2
Work	4
Army	5
Second-hand clothing	1

NO CAUSE ASSIGNED	54

A probable cause has been found in 37.4% of the cases, a possible cause in 14.2%, and a doubtful cause in 13.6%. No cause is assignable in 34.8%.

There is no evidence pointing to a particular milk supply being at fault. This is to be expected, even though a milk supply were causing the disease, for the incubation period, or period before the disease shows itself after infection has entered, is so long, that the patient has had time to change his milk supply, or the infection to disappear from the milk before any relation could even be suspected.

A number of sanitary defects were found by the Health Visitor when visiting houses in which there was, or had been, a consumptive ; these were reported to the inspectors of the districts concerned, who took measures to secure their removal.

As a case of phthisis may leave infection behind him when removing from one house to another, efforts were made to induce the landlords to permit disinfection of the houses left. Disinfection on this score was carried out in 16 houses; this being in addition to the regular disinfection of houses where a death had taken place.

Sanatorium Treatment.—I mentioned last year that the principle of sending early cases to a sanatorium had been agreed to by the Council. At the commencement of the year I visited two sanatoriums in different parts of the country, and reported to the Sanitary Committee, at the same time reporting on a third sanatorium I had previously seen. As a result, arrangements were made with Kelling Sanatorium, Holt, Norfolk, to occupy with patients from Northampton six beds, four for males and two for females, at a cost of £84 per annum per bed. At the request of the Kelling Authorities it was agreed that the patients to be admitted were first of all to be passed by a medical referee, and Dr. Hichens was appointed referee. The first examination of cases took place on May 29th, and the first case was admitted to the sanatorium on June 15th. Many cases who applied were rejected on the ground of unsuitability, owing to the duration of the disease, and its severity, while others, in the earliest stages, who had either applied themselves or had been notified by their medical attendants as probably suitable, declined to present themselves for examination. Such crass folly in the face of the advice of their medical attendants, and in face of the facilities granted by the Council, seems almost incredible; but it shows how difficult it is for a consumptive to realise the extreme seriousness of his condition, and it handicaps the efforts of those who would help the patient if they could.

In all up to the present date (February 12th, 1907) 59 applications have been received either directly from the patients, or indirectly through their medical attendants certifying them as probably suitable. Of these 48 were men and 11 were women. A few of those who applied were rejected by myself as obviously too advanced—these numbered 7, of whom 6 were men and 1 was a woman. Twelve (8 men and 4 women) either did not present themselves for examination or expressed their unwillingness to go to a sanatorium. Sixteen (15 men and 1 woman) were rejected by Dr. Hichens. Two (1 man and 1 woman) died in the interval between application and examination. Eighteen (14 men and 4 women) were passed as suitable by Dr. Hichens; of these, one man did not go, as he had not the money to go to Kelling, and now he does not wish to go as he has much improved, and one man was rejected by the Kelling authorities, to whom in this case Dr. Hichens left the final choice on the ground of the duration of the disease and the age of the patient. Four (all men) remain on our list of applicants, of whom two are said to be at other sanatoriums. It is of interest to note that of those rejected five have died since their applications. Of the sixteen patients sent to Kelling, six are at present at Kelling. There remain, therefore, ten patients, in whose cases the following results have been noticed :—

Case 1906/40. F. 17.—Discharged from Kelling September 6th, 1906. In Kelling 83 days. She was discharged because tuberculosis showed itself in an elbow. Since then she has been at the General Hospital, and has been operated on. She looks and feels fairly well, but apparently both her elbow and knee are affected.

Case 1906/55. F. 57.—Discharged September 21st, 1906. Stay, 84 days. She gained 14½-lbs., and "the disease seemed arrested." Since then she keeps fairly well, but has lost weight again, and has cough and expectoration markedly again. She has suffered some privations, to which she attributes the loss of weight, etc.

Case 1906/9. M. 25.—Discharged November 24th, 1906. Stay, 133 days. Had attacks of hæmoptysis while at Kelling, but improved; gained 18¼-lbs. Since, has worked a fortnight, had an attack of pleurisy, lost 4-lbs., and his cough is rather severe, with a good deal of expectoration.

Case 1906/48. M. 48.—Discharged October 23rd, 1906. Stay, 92 days; gained 20¼-lbs. and cough and expectoration disappeared. Since, was able to work till he had an attack of influenza and bronchitis, lost 18-lbs, cough rather severe, but looks well.

Case 1906/36. M. 44.—Discharged October 23rd, 1906. Stay 91 days. Cough and expectoration same as on admission, but gained 17¼-lbs. Since he has lost 12-lbs, cough as before, but he looks very well.

Case 1905/62. M. 20.—Discharged September 29th, 1906. Stay, 59 days. He did not do well; the disease probably extended while at Kelling, temperature variable, but gained 16¾-lbs. He was discharged as not likely to benefit by sanatorium treatment. Since he has been much the same, but lost 5-lbs, and lately has had an attack of hæmoptysis.

Case 1906/59. M. 27. Discharged December 24th, 1906. Stay, 84 days ; gained 17-lbs., but expectoration and cough still present, though diminished. Since he looks well and stout, and his weight is not diminished, he has got out-door work, and feels " as well as ever he did."

Case 1906/82. F. 30.—Discharged November 3rd, 1906. Stay, 50 days. She was discharged owing to disobedience to rules. Improved while at Kelling. Since she is about the same as before going, cough rather severe ; has had three weeks' illness owing to a " cold."

Case 1906/51. M. 19.—Discharged January 22nd, 1907. Stay, 91 days ; gained 16¼-lbs., expectoration much reduced. Since has gone back to work but has lost 2½-lbs.

Case 1906/93. M. 45.—Discharged February 2nd, 1907. Stay, 70 days ; gained only 2½-lbs, little diminution of expectoration, frequent shortness of breath. He was discharged on the ground that he was not benefiting. At present states that he is no better for going to Kelling.

These results are decidedly disappointing to those who pin their faith to sanatorium treatment ; but they illustrate the correctness of the view put before the Sanitary Committee that among the poor sanatorium treatment, unless followed up by home treatment with sufficient food, and out-door work of not too severe a character, is likely to be unsuccessful. Only two of the above patients, viz., 1906/55 and 1906/59, seem likely to benefit permanently, and it is possible that 1906/55, owing to privations, will lose the benefit she undoubtedly derived. To help these patients on their return from Kelling the local branch of the National Society for the Prevention of Tuberculosis formed an after-care committee to try and find them suitable work. In this connection it is important to emphasise the fact that regular work and an easy mind are more important for these patients than out-door work, provided the indoor work can be carried out under suitable conditions. As most of the patients have been connected with the shoe trade, it would probably be best, if possible, that they should be permitted to take home their work, and in their homes to work at it in a room with wide open windows. I am informed that while the trade union would object to a healthy man doing this, no objection will be raised in the case of a consumptive.

Welford Road Hospital.—The object of opening this hospital to consumptives is to provide a home where those in an advanced stage of the disease can be isolated from their friends. Unfortunately the idea became general that the hospital was meant for those in a dying condition. As a result, patients thought of admission to the hospital as equivalent to a death warrant, and great difficulty was experienced in inducing them to enter its doors. Various rumours grew up about the treatment of the patients which can only have had their origin in the desire of patients to find a reason for not going. As a consequence the hospital has never been fully utilised. Ten beds are available, but during the year never more than about seven were regularly occupied. It will have been observed in considering the applications for Kelling, how much more numerous were the applications from men than from women. The same difficulty was met with at Welford Road. It is true that fewer women than men died in 1906 from phthisis, but in 1905 the numbers were practically the same, so that the cause of this want of applications for treatment cannot have been due to any smaller incidence of the disease among women. It must be put down to the disinclination of women to leave the home life to which they are accustomed, and to their refusal to recognise the seriousness of the disease and their responsibilities to others. Very few applications either from men or women were received for Welford Road Hospital; in order to obtain patients it was necessary to visit them personally, examine them to see if they were suitable, and then to persuade them to enter the hospital.

The first patient was admitted on February 9th, and by the end of the year 23 had been admitted. Of these, 6 were under treatment at the end of the year, 9 died in the hospital (3 who were discharged at their own request and against my wish died at their homes during the year). Two went out at their own request, and are still living, and 3 were discharged as the disease seemed to be arrested for the time in order that beds might be found for more serious cases. The discharge of patients has given rise to some question as to the type of patients admitted, as it was assumed in some quarters that all would die and none be discharged. In answer to this it must be observed that the hospital is meant for advanced, but not necessarily dying cases, that no prophecy can be made as to the length of time any patient is likely to live, that there are periods of exacerbation in the course of the ordinary cases, and also periods of apparent arrest of the disease, and that under proper treatment many cases which would probably have gone rapidly down hill in their own homes will pull round in the most marvellous fashion. Finally, I pointed out to the Committee when the question of establishing the hospital was under discussion that this very question would arise, and suggested a time limit for the stay of such cases in the hospital. It was decided, however, that a time limit was not desirable.

That the hospital is subserving the object for which it was meant is clear from the fact that 9 cases died in it, and 3 more after leaving it. Those who leave are thoroughly instructed in the art of looking after themselves in order to prevent infection of others. These 12 deaths represent 15% of all the deaths during the year, so that there must have been a very appreciable reduction in the amount of infective material cast about the town.

Posters.—Last year I mentioned the result of an investigation made into the mortality statistics of boot and shoe workers in Northampton, by which it appeared that these workers were especially liable to pulmonary phthisis, though in other respects the trade was a healthy one. It seemed important that the facts should be brought home to the workers in this trade, and at the same time that instruction should be given how to prevent the disease in factories and workshops. For this purpose the following poster was drawn up by myself, printed by order of the Sanitary Committee, and issued to all factories and worskhops in the town, with a request that it should be exhibited in a conspicuous position. I may say that the idea was taken from a poster issued in Leicester, and drawn up by the Medical Officer of Health for Leicester.

THE IMPORTANCE OF FRESH AIR.

Over 100 persons die from consumption in Northampton every year.

Persons working in factories are liable to suffer from consumption to a much greater extent than those whose occupation is in the open air. The general death-rate from this disease among persons over 15 years of age in the town is 1.82 in every 1,000 in each year, while in the boot and shoe trade the death-rate is 2.59.

The open-air treatment is the best CURE for consumption, but prevention is better than cure, therefore never breathe bad air and so help to produce a disease which requires fresh air for its cure.

All employees in factories are urged for their own sakes to insist on having the windows and ventilators open, if only a little.

It is better to endure a slight draught than to breathe foul air, and remember that persons working in a close vitiated atmosphere often fail to notice how bad the air has become.

If obliged to close ventilators during bad weather, do not forget to open them again when the weather improves.

In shoe factories and workshops consumption is specially prevalent among the male workers, particularly clickers and finishers.

Above all things do not spit on the floor, and discourage others from doing so, for consumption is mainly spread by the sputum of consumptives.

Employers are requested to see that all windows and ventilators are set wide open during meal times. This is a precaution of the greatest importance.

Royal Commission on Tuberculosis.—This commission was appointed in 1901 to consider the relations of human and animal tuberculosis, and though it has not yet concluded its labours it has issued two interim reports, of which the latest, issued at the beginning of 1907, is the more important. The Commission are of opinion that tuberculosis in animals can be conveyed to human beings. The following is in their own words :—

"There can be no doubt but that in a certain number of cases the tuberculosis occurring in the human subject, especially in children, is the direct result of the introduction into the human body of the bacillus of bovine tuberculosis ; and there also can be no doubt that in the majority at least of these cases the bacillus is introduced through cows' milk. Cows' milk containing bovine tubercle bacilli is clearly a cause of tuberculosis and of fatal tuberculosis in man."

"A very considerable amount of disease and loss of life, especially among the young, must be attributed to the consumption of cows' milk containing tubercle bacilli. The presence of tubercle bacilli in cows' milk can be detected, though with some difficulty, if the proper means be adopted, and such milk ought never to be used as food. There is far less difficulty in recognising clinically that a cow is distinctly suffering from tuberculosis, in which case she may be yielding tuberculous milk. The milk coming from such a cow ought not to form part of human food, and indeed ought not to be used as food at all."

" Our results clearly point to the necessity of measures more stringent than those at present enforced being taken to prevent the sale or the consumption of such milk."

SPECIFIC FEBRILE OR ZYMOTIC DISEASES.—The diseases included in the zymotic death-rate are smallpox, measles, scarlet fever, diphtheria, whooping cough, typhoid fever, and diarrhœa.

The number of deaths from these diseases was 84, and the death-rate 0.92, a figure which is 0.11 less than in 1905 (1.03). This is the lowest death-rate in any year of the last twenty-five years, except the year 1892, when the rate was the same.

In England and Wales in 1906 " 60,063 deaths were attributed to these epidemic diseases, corresponding to a rate of 1.73 per 1,000 living, against 1.46, 1.94, and 1.52 respectively in the three preceding years.

STATISTICS FOR THE YEARS 1896—1906; NORTHAMPTON.

	1896	1897	1898	1899	1900	1901	1902	1903	1904	1905	1906
Zymotic death-rate	2.7	2.7	2.2	1.5	1.6	1.9	1.5	1.3	1.5	1.0	0.9
Deaths	168	164	137	93	98	168	134	120	139	94	84

ZYMOTIC DEATHS IN DISTRICTS.

WARD.	Small Pox.	Measles	Scarlet Fever.	Diarrhœa.	Diphtheria.	Whooping Cough.	Typhoid Fever.	Total.	Death-rate.
St. Michael	..	..	3	6	..	2	1	12	0.84
Castle ..	..	..	..	10	..	2	1	13	1.25
St. Crispin	..	..	..	5	..	1	6	12	1.09
South ..	..	..	..	2	3	..	..	5	0.69
North ..	..	..	..	13	..	1	1	15	1.09
Kingsthorpe	..	..	..	2	..	..	..	2	0.19
St. James	..	..	..	10	2	..	..	12	1.36
Far Cotton	..	..	..	3	..	2	..	5	1.01
St. Edmund	..	..	2	3	2	..	1	8	0.76
BOROUGH	..	..	5	54	7	8	10	84	0.92

It is very satisfactory to note that the zymotic death-rate in 1906 was 0.87 below the average for the years 1896—1905, and that it equalled the rate of the lowest year on record since 1876, viz., 1892. The most striking features of the year are the increase in mortality from diarrhœa and typhoid fever, and the complete absence of mortality from measles.

NOTIFICATION OF INFECTIOUS DISEASES.

1906.	Small Pox.	Typhoid Fever.	Erysipelas.	Puerperal	Diphtheria.	Scarlet Fever.	Membranous Croup.	TOTAL.
Week ending January 6 ..	..	2	2	..	..	10	..	14
,, ,, 13 ..	..	1	3	..	..	2	..	6
,, ,, 20 ..	..	1	3	..	..	4	..	8
,, ,, 27 ..	..	..	3	..	..	10	1	14
,, February 3 ..	..	2	2	..	..	10	..	14
,, ,, 10 ..	..	..	..	..	..	13	..	13
,, ,, 17 ..	..	..	3	..	..	7	..	10
,, ,, 24 ..	..	1	1	..	..	7	..	9
,, March 3 ..	..	..	2	..	1	13	..	16
,, ,, 10 ..	..	1	..	..	2	4	..	7
,, ,, 17 ..	..	2	4	..	2	4	..	12
,, ,, 24 ..	..	..	1	..	1	9	..	11
,, ,, 31 ..	..	1	..	..	1	4	..	6
,, April 7 ..	..	..	..	..	..	7	..	7
,, ,, 14 ..	..	..	1	1	..	8	..	10
,, ,, 21 ..	..	2	1	..	..	7	..	10
,, ,, 28 ..	..	..	..	..	..	5	..	5
,, May 5 ..	..	1	2	..	..	7	..	10
,, ,, 12 ..	..	..	1	..	1	5	..	7
,, ,, 19 ..	..	..	2	..	1	4	..	7
,, ,, 26 ..	..	1	2	1	..	6	..	10
,, June 2 ..	..	..	4	..	1	5	..	10
,, ,, 9 ..	..	..	2	..	1	4	1	8
,, ,, 16 ..	..	..	..	..	2	2	..	4
,, ,, 23 ..	..	1	1	..	..	4	..	6
,, ,, 30 ..	..	..	..	..	1	6	..	7
,, July 7 ..	..	..	2	..	..	2	..	4
,, ,, 14 ..	..	..	..	..	..	8	..	8
,, ,, 21 ..	..	1	1	..	..	3	..	5
,, ,, 28 ..	..	..	1	..	..	5	..	6
,, August 4 ..	..	2	..	..	2	6	..	10
,, ,, 11 ..	..	1	1	..	..	3	..	5
,, ,, 18 ..	..	1	3	..	..	4	..	8
,, ,, 25 ..	..	..	..	..	1	..	..	1
,, September 1 ..	..	1	4	..	1	7	..	13
,, ,, 8 ..	..	..	2	..	..	3	..	5
,, ,, 15 ..	..	..	..	..	..	4	..	4
,, ,, 22 ..	..	..	1	..	1	5	..	7
,, ,, 29 ..	..	..	2	..	..	5	..	7
,, October 6 ..	..	..	1	..	..	4	..	5
,, ,, 13 ..	..	..	..	..	..	5	..	5
,, ,, 20 ..	..	1	2	..	..	6	..	9
,, ,, 27 ..	..	3	..	..	..	2	..	5
,, November 3 ..	..	2	2	..	..	3	..	7
,, ,, 10 ..	..	1	2	..	1	4	..	8
,, ,, 17 ..	..	..	2	..	..	3	..	5
,, ,, 24 ..	..	..	1	..	2	2	..	5
,, December 1 ..	..	1	1	..	1	6	..	9
,, ,, 8 ..	..	2	1	..	..	2	..	5
,, ,, 15 ..	..	1	..	..	..	7	..	8
,, ,, 22 ..	..	..	2	..	2	1	..	5
,, ,, 29 ..	..	1	..	..	..	9	1	11
1906	..	34	71	2	25	276	3	411
1905	1	23	105	1	24	827	7	988

SMALLPOX.—No case of smallpox was notified during the years 1894—1901 inclusive, though there had been an outbreak in 1893. In the year 1902 two cases were reported. In 1903 an outbreak occurred, the first case being notified on March 20th, the last on May 22nd. The total number of cases notified was 37. No outbreak of any importance occurred during 1904. Four cases occurred, one an isolated case, and the other three in a group. During 1905 one case only was reported.

The year 1906 passed without giving Northampton any cases of the disease. This freedom from smallpox is related to the freedom which the country generally experienced. There was no infection to be brought to Northampton by the agency of tramps or otherwise.

VACCINATION—I have obtained the following figures by the courtesy of Mr. Paget, the County Medical Officer of Health, who has calculated them from the official figures as far as the year 1902 ; he has supplied me with figures which have enabled me to calculate the percentages for the years 1903, 1904, and 1905.

The figures apply to the Northampton Union, which contained at the census somewhat over 89,000 people. This Union does not include Far Cotton with its population of over 4,000 at the census, but does include the districts of Great and Little Billing, Weston Favell, Dallington, Duston, Bugbrooke, Harpole, Kislingbury, Nether Heyford, Upper Heyford, and Upton, which contain about 6,500 people. The vast majority of the population belongs to the Borough, and the figures may be accepted as practically correct for the Borough.

Table showing the percentage of children who have not been vaccinated, after deducting the children who died before vaccination could take place :—

1893—1897	83.3
1898	81.4
1899	73.5
1900	76.2
1901	66.6
1902	58.7
1903	62.9
1904	76.2
1905	66.8

The table shows that there was a slight improvement in 1905 over 1904 in this respect. Nevertheless, in 1905, no less than 1117 certificates of conscientious objection were granted, while there were 1964 births inside the Union during that year.

SCARLET FEVER.

Year.	Population.	Notifications.	Attack Rate per 1000.	Deaths.	Death-rate.	Case Mortality per cent.	Zymotic Death-rate.	General Death-rate.	Removed to Hospital.	Percentage Removed.
1896	61087	384	6.3	11	0.18	2.6	2.7	16.1	264	68.7
1897	61102	866	14.2	41	0.67	4.7	2.7	17.0	432	49.8
1898	61117	731	11.9	15	0.24	2.0	2.2	16.2	317	43.1
1899	61132	338	5.5	11	0.18	3.2	1.5	15.0	232	68.3
1900	61147	93	1.5	3	0.05	3.2	1.6	15.5	67	72.1
1901	87021	171	1.96	3	0.03	1.7	1.9	13.9	108	63.2
1902	88206	161	1.82	3	0.03	1.9	1.5	14.7	118	73.2
1903	89960	662	7.36	24	0.27	3.6	1.3	13.5	398	60.1
1904	90340	2224	24.62	40	0.44	1.8	1.5	13.1	746	33.5
1905	91230	827	9.06	16	0.18	1.9	1.0	12.7	493	59.6
1906	91640	276	3.01	5	0.05	1.8	0.9	11.6	208	75.4

SCARLET FEVER.—The year under consideration was a non-epidemic year as far as this disease is concerned : the epidemic which began in 1903 died out in the early months of 1905, and though there was a slight recrudescence towards the end of 1905, whose effect was perceptible during the first two months of 1906, the disease never became epidemic. Throughout the greater part of 1906 the weekly number of cases stood at a low level, indeed, during one week, that ending August 25th, no case was reported. At the end of the year a small outbreak occurred at the General Hospital, which increased the number of notifications, but the highest figures were reached at the beginning of the year, during the weeks ending February 10th and March 3rd, when 13 cases were notified.

The total number of cases amounted to 276 ; this figure, though low as compared with the last three years, does not compare with the figures for the years 1900, 1901, and 1902, when the attack rate was under 2 per 1,000. During 1906 the attack rate was almost exactly 3 per 1,000 of the population.

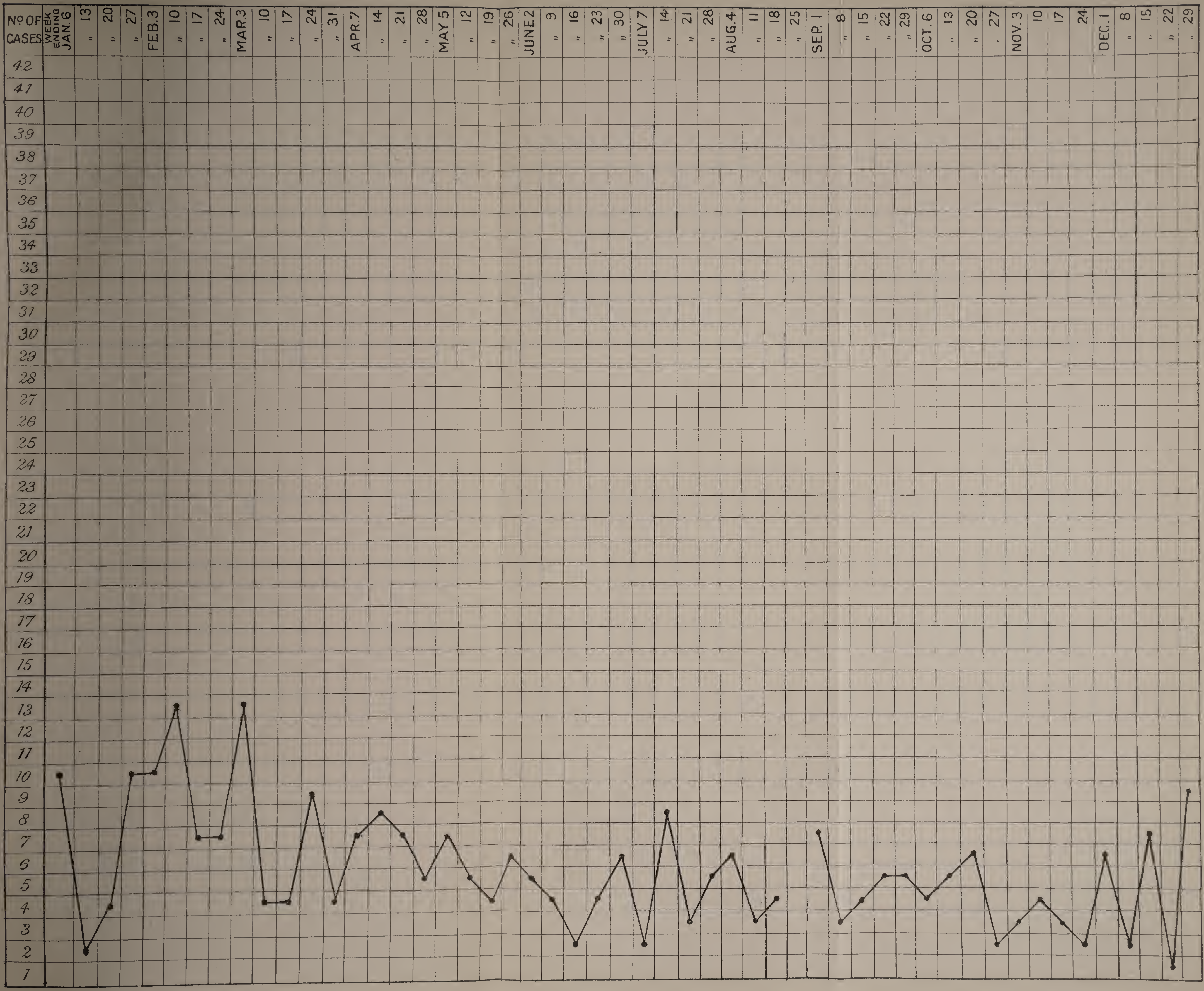
Age incidence of scarlet fever during 1906 :—

Under 1 year.	1 to 5.	5 to 15.	15 to 25.	25 to 65.	65 and over.
—	59	182	24	10	1

As in former years infants under one year of age appear to be relatively insusceptible to the disease.

The deaths numbered 5, which is equivalent to a rate of 0.05 per 1,000 of the population. This rate is only surpassed during the last eleven years for the rates for the years 1901 and 1902, and is equal to the rate in 1900.

The case mortality continues low, being the same as in 1904, and 0.1 less than in 1905. The year was surpassed in this respect only by the year 1901, when the rate was 0.1 less. Scarlet fever, therefore, as we at present know it, must be classed among the milder epidemic diseases ; this is borne out by our experience at the hospital, many of the children attacked showing scarcely any general symptoms of illness.



Nº OF CASES
WEEK ENDING
JAN. 6
" 13
" 20
" 27
FEB. 3
" 10
" 17
" 24
MAR. 3
" 10
" 17
" 24
" 31
APR. 7
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MAY 5
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JUNE 2
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JULY 7
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MONTHLY TABLE.

Month.	Notifications.	Deaths.	Case Mortality per cent.	Removed to Hospital.	Percentage removed.
January	30	..	..	17	56.7
February	44	1	2.27	32	72.7
March	23	1	4.35	18	78.3
April	30	..	..	19	63.3
May	24	..	..	21	87.5
June	16	..	..	9	56.2
July	20	..	..	15	75.0
August	17	1	5.88	16	94.1
September	18	1	5.55	14	77.8
October	19	..	..	17	89.5
November	14	..	..	9	64.3
December	21	1	4.76	19	90.5
YEAR	276	5	1.81	206	74.6

The above table shows the monthly incidence of the disease and its monthly fatality. As regards the number removed to hospital, the figure 206 differs from the 208 given in a previous table. The cause of the difference is that the figure 206 is the total number removed of the 276 cases which occurred, while 208 is the total number removed to hospital during the year, one or two cases having been removed at the commencement of the year, though notified at the end of 1905.

During the year every case willing to go to hospital was removed there.

The following cases are interesting :—

Case 379. F. 5.—Had headache on November 4th. A doctor was called in and saw the child on November 11th, but gave no warning to the mother that he feared anything infectious. On November 26th " peeling " was noticed and the doctor, called in again, notified the case.

In this case evidently no rash had occurred, and the only point bearing on the case which could be elicited was " some soreness of the glands of the throat " at the same time as the headache.

Case 241. M. 69.—This man was found to be desquamating on the hands, and the doctor, with some hesitation, notified the case.

He had been attending the case throughout and had noticed no other sign of the disease. It is doubtful that the case was really one of scarlet fever both on account of the age of the patient and the fact that a boy in the house slept with him till the date of the notification without contracting the disease.

Case 319. F. 1.—The mother of this patient had been nursing two patients suffering from scarlet fever in a village some distance away from Northampton. She returned home before these patients were quite free from infection, though she took certain precautions. Her child, this patient, fell ill five days after her return.

The extreme mildness of some of the cases renders it very difficult to check the spread of the disease ; for example, in one case which was notified when commencing to desquamate it was found that the child had not been away from school on account of illness. In this connection it is of importance to note that it appeared in several cases that other members of the household in which a case occurred had suffered, or were suffering, from "sore throats." This occurred in 13 cases. In one of these cases, No. 49, a sister who had only had a sore throat when the patient was notified, later began to desquamate and was notified as scarlet fever. It has been proved in the case of diphtheria that the germs of the disease may be present in the throats of those who have none of the typical signs of the disease, but only complain of soreness of the throat, and may even be present in the throats of those who feel perfectly well, provided that in either case they have been exposed to infection. I have little doubt that the same thing occurs in scarlet fever. Scarlet fever without a rash is a recognised form of the disease, and it is easy to understand that in still milder form the disease might show no symptom but slight soreness of the throat. The importance of this, however, from the public health aspect, can scarcely be overestimated for such cases in spite of their mildness are capable of spreading the disease. A bacteriological test is needed, but it has not yet been discovered.

Table showing the Number of Cases of **SCARLET FEVER** connected with each School during each month of the year 1906.

SCHOOLS.	Jan.	Feb.	March.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
Stimpson Avenue	..	..	..	2	2	5	4	2	2	..	..	..	17
Kettering Road	8	4	2	1	..	..	..	1	1	3	..	..	20
St. James	..	3	4	1	..	..	1	1	1	5	3	1	20
Spring Lane	..	..	..	1	..	..	..	..	..	..	..	..	1
St. Mary's, Mounts	..	..	1	1	..	..	1	..	..	..	..	2	5
St. Mary's, Clare Street ..	..	..	..	..	..	..	1	..	..	..	..	..	1
The British	..	1	1	1	3	2	..	..	..	..	..	1	9
Military Road	..	2	..	1	..	..	..	..	3	1	..	1	8
Kingsthorpe	1	..	..	2	1	..	..	..	..	..	..	..	4
Barry Road	3	3	3	2	1	3	6	7	4	2	2	1	37
St. Edmund's	1	..	..	..	3	..	..	..	..	1	..	1	6
Vernon Terrace	3	..	2	3	3	1	1	..	2	4	..	..	19
St. Sepulchre's	..	3	..	..	..	..	1	1	..	..	..	1	6
St. Matthew's	3	4	2	1	1	..	3	1	3	..	..	1	19
St. Peter's	1	3	..	..	..	..	..	1	..	..	..	4	9
St. Andrew's	..	..	1	..	..	..	..	..	..	..	2	..	3
Far Cotton	..	1	2	1	..	..	..	1	..	..	3	..	8
All Saints'	..	7	3	1	..	..	..	2	..	1	2	..	16
St. Paul's	..	1	..	..	1	1	..	..	..	..	..	..	3
St. Giles'	2	..	..	..	..	..	..	..	..	..	..	1	3
St. Katharine's	..	..	..	..	..	..	..	1	1	..	..	..	2
Queen's Park..	..	..	..	3	1	..	..	..	..	..	..	..	4
St. James' Council	1	4	1	3	5	..	..	..	..	..	..	1	15
Kingsthorpe Council ..	..	..	..	..	..	..	..	..	..	..	..	..	..
Blue Coat School	..	..	..	..	..	..	..	..	..	..	..	..	..
St. Luke's	..	..	..	1	..	..	..	..	1	..	..	..	2
Other Schools	3	8	3	4	1	2	4	..	..	2	..	..	27
TOTALS	26	44	25	29	22	14	22	18	18	19	12	15	264

The relation of the disease to the public elementary schools is shown in the accompanying table, which gives the monthly incidence of the disease in the various schools. It must be remembered in studying this table that the term used is "connected with," for the table gives the school attended not merely by the patient, but by his brothers and sisters. A single case is often credited to two or more schools where the children in the house did not all attend the same school. Again, where a patient was too old to attend a school, but had brothers or sisters attending school, the school which they attended is credited with the case. From the figures, therefore, should be deducted about one-fourth, or 25%, to get at the actual facts.

No school was closed during the year on account of scarlet fever.

The distribution of the disease in the various Wards is shown in the following table:—

WARD.	Cases.	Case Mortality per cent.	Death-rate per 1,000.
St. Michael	61	4.92	0.21
Castle	9	Nil.	Nil.
St. Crispin	19	Nil.	Nil.
South	25	Nil.	Nil.
North	18	Nil.	Nil.
Kingsthorpe	42	Nil.	Nil.
St. James	39	Nil.	Nil.
Far Cotton	17	Nil.	Nil.
St. Edmund	46	4.35	0.19

It is a curious coincidence that the Wards which in 1905 showed no case mortality are the only Wards which in 1906 had any case mortality.

Very few return cases occurred during the year, *i.e.*, where another case developed in the house after the return of a child from the hospital apparently in perfect health and free from infection. This occurred in only 5, or 2.42%, of the cases discharged from the Borough Hospital. No alteration was made in the methods used at the hospital for preventing these cases, probably, therefore, the comparative freedom from this source of infection was due to the fact that the wards of the hospital were never crowded.

DIPHTHERIA AND MEMBRANOUS CROUP.

Year.	Population.	Notifications.	Attack Rate per 1000.	Deaths.	Death-rate per 1000.	Case Mortality per cent.	Zymotic Death-rate per 1000.	General Death-rate.	Removed to Hospital.	Percentage Removed.
1896	61087	16	0.26	2	0.03	12.5	2.7	16.1	1	6.2
1897	61102	11	0.18	1	0.02	9.1	2.7	17.0	. .	0.0
1898	61117	21	0.34	2	0.03	9.5	2.2	16.2	4	19.0
1899	61132	16	0.26	2	0.03	12.5	1.5	15.0	. .	0.0
1900	61147	16	0.26	6	0.10	37.5	1.6	15.5	1	6.2
1901	87021	23	0.26	9	0.09	39.1	1.9	13.9	3	13.0
1902	88206	28	0.32	11	0.12	39.3	1.5	14.7	2	7.1
1903	89960	39	0.43	18	0.20	46.1	1.3	13.5	3	7.7
1904	90340	48	0.53	9	0.10	18.7	1.5	13.1	13*	27.1
1905	91230	31	0.34	14	0.15	45.2	1.0	12.7	6*	19.3
1906	91640	28	0.31	7	0.08	25.0	0.9	11.6	9†	32.1

† Removed to the General Hospital 5.
" " Borough " 4.

* Removed to the General Hospital.

DIPHTHERIA AND MEMBRANOUS CROUP.—The table shows that 28 cases were reported during the year—an attack rate of 0.31 per 1,000. The number of cases occurring has continued to diminish, though slightly, since the maximum was reached in 1904. The cases were fairly evenly scattered through the year. The death-rate from these diseases was less than that of any year since and including 1900, though it was more than those of the years 1896—1899. The case mortality was exactly 25%, or one-fourth of those who were notified as suffering from the disease died ; a clear proof of the seriousness and malignity of this affection.

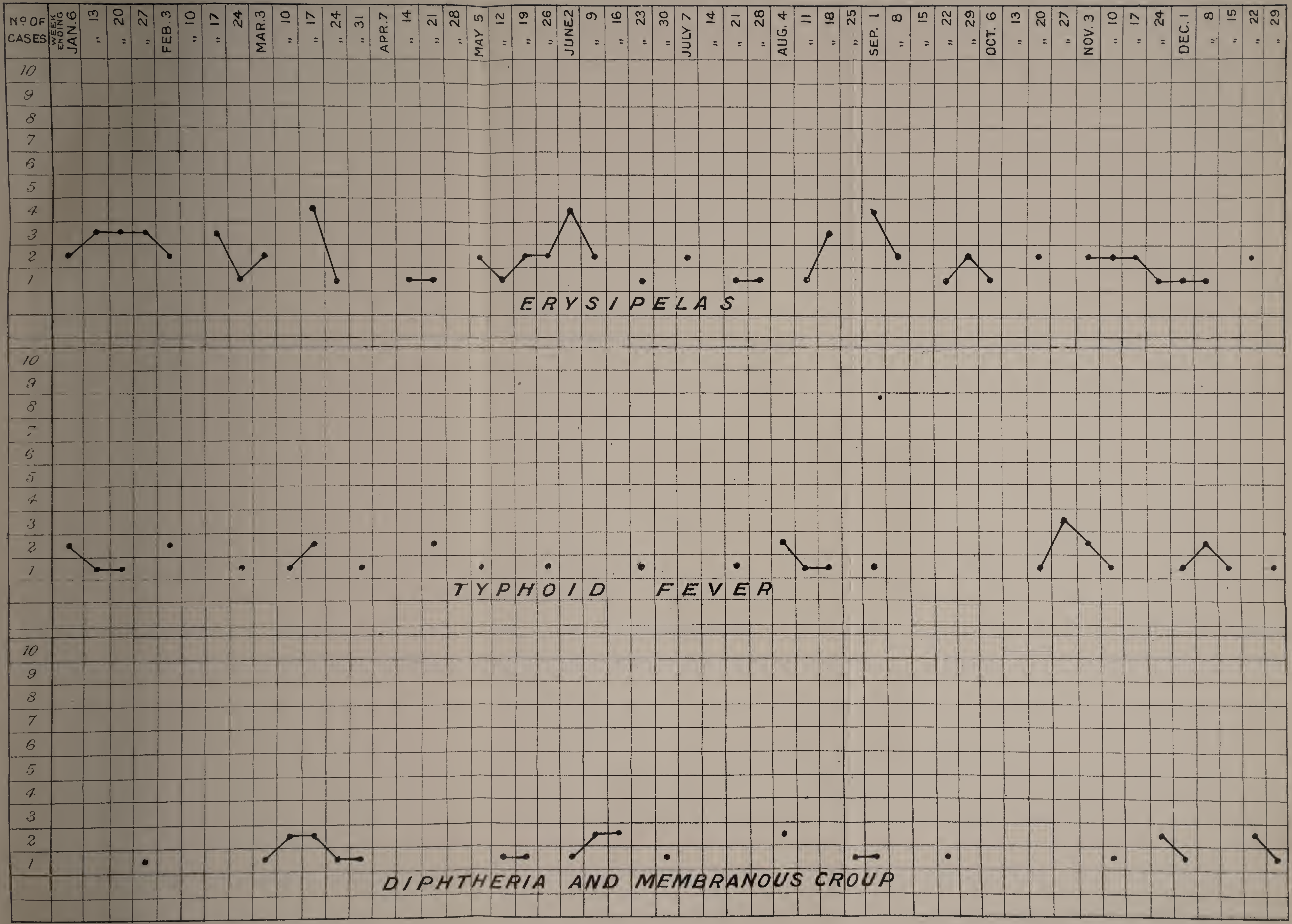
No evidence of importance bearing on the occurrence of these sporadic cases was elicited. It was, however, found as in former years, that chronic conditions, such as adenoids, enlarged tonsils, tendency to "sore throat," etc., rendered the person liable to attacks of diphtheria. Presumably the germ finds such conditions provide suitable soil for its growth. In one case a cat was affected with a cough for a week before the occurrence of the case ; on suspicion being thrown in this direction the owner of the animal promptly poisoned it, but it is by no means certain, or even probable, that the cat had the disease. Two cases were imported into the General Hospital. Lastly, one case complained of feeling the smell from some latrines affect her. She stated that the odour was particularly perceptible four days before she fell ill, that she could taste nothing on that day, and that she was continually spitting to get rid of the odour.

Four cases were admitted to the Borough Hospital during the year, and five to the General Hospital, or in all 32.1% were removed to hospital.

Localities in which diphtheria and membranous croup occurred :—

Brook Street.
Clinton Road (2 cases).
Orchard Street (2 cases).
Spencer Bridge Road.
Norfolk Street (2 cases).
*Lower Thrift Street.
†Spencer Bridge Road.
Hazelwood Road.
†Cranstoun Street.
†Euston Road.
†Kingsthorpe Road.
Sunderland Street.
*Melbourne Street.
*Wimbledon Street.
Vernon Street.
Cattle Market Road (3 cases).
General Hospital (2 cases, imported).
Artizan Road.
*Hampton Street.
*Abbey Street, St. James.
Lea Road.
Manor Road.

* Removed to the General Hospital (5 cases).
† Removed to the Borough Hospital (4 cases).


Nº OF CASES
WEEK ENDING
JAN. 6
" 13
" 20
" 27
FEB. 3
" 10
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24
MAR. 3
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" 17
" 24
" 31
APR. 7
" 14
" 21
" 28
MAY 5
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" 19
" 26
JUNE 2
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" 16
" 23
" 30
JULY 7
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AUG. 4
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SEP. 1
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OCT. 6
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ERYSIPELAS
TYPHOID FEVER
DIPHTHERIA AND MEMBRANOUS CROUP

TYPHOID FEVER.

Year.	Population.	Notifications.	Attack Rate per 1000.	Deaths.	Death-rate per 1000.	Case Mortality per cent.	Zymotic Death-rate per 1000.	General Death-rate.	Removed to Hospital.	Percentage Removed.
1896	61087	17	0.28	3	0.05	17.6	2.7	16.1	5	29.4
1897	61102	28	0.46	7	0.11	25.0	2.7	17.0	1	3.6
1898	61117	36	0.59	4	0.65	11.1	2.2	16.2	16	44.4
1899	61132	46	0.75	11	0.18	23.9	1.5	15.0	22	47.8
1900	61147	69	1.13	17	0.28	24.6	1.6	15.5	44	63.7
1901	87021	70	0.80	13	0.14	18.6	1.9	13.9	40	57.1
1902	88206	63	0.71	17	0.19	26.9	1.5	14.7	33	52.3
1903	89960	25	0.28	6	0.07	24.0	1.3	13.5	7	28. 0
1904	90340	30	0.33	Nil.	Nil.	Nil.	1.5	13.1	8	26.6
1905	91230	23	0.25	1	0.01	4.3	1.0	12.7	13	56.5
1906	91640	34	0.37	10	0.11	29.4	0.9	11.6	22	64.7

1904.—8 cases removed to the General Hospital.

1905.—9 cases removed to the General Hospital, 4 to the Borough Hospital.
1906.—2 ,, ,, ,, 20 ,, ,,

TYPHOID FEVER.—The record is not so satisfactory as that of last year, as there was an increase in the number of cases and the fatality of the disease was much greater. There were notified 34 cases, showing an attack rate of 0.37 per 1,000. Ten deaths took place, producing a death-rate of 0.11 per 1000 of the population, and a case mortality percentage of 29.4.

The following cases are of interest, the first cases showing the risk of infection in this disease :—

Case 298. F. 3.—This case was a sister of Case 275, and slept in the same room as he before it was known that he had typhoid fever.

Cases 395 and 405 were children of Case 388, and developed the disease within the usual incubation period.

Case 336. F. 20.—This patient came from Earls Barton, where she had worked beside a young woman whose brother was suffering from typhoid.

The following indicates the probability that mild cases of the disease are often overlooked :—

Case 3. M. 50.—This man's wife had been ill for about a fortnight before he fell ill, complaining of internal pains, enlarged abdomen and constipation ; she had not, however, been notified as suffering from typhoid fever.

A question has at times arisen as to the possible *de novo* origin of the disease. The following cases bear on this point :—

Case 158. M. 23.—This patient had been working with manure prior to his illness, and complained greatly of the odour.

Case 275. M. 5.—The drains in the house had been " up " about a fortnight prior to the onset of the illness in this patient.

Case 348. F. 27.—This was an imported case. She stated that the closets of the houses of the village in which she lived had been blocked for a long time during the summer, and that the smell was abominable.

The Borough Hospital was able to accommodate many of the cases during the year, 20 patients being admitted to it. As there were 2 others admitted to the General Hospital, the percentage of cases removed was 64.7.

Localities in which typhoid fever occurred.

Adelaide Street.	Thomas Street.
†Wilby Street.	Cecil Road.
Kingsthorpe Road.	†Clare Street.

†Thirlestane Road.
†Main Road, St. James.
Queen's Road.
†Edith Street.
Hunter Street.
*Alcombe Road (imported).
†Greenwood Road.
†Abington.
†Maple Street (2 cases).
†Cloutsham Street.
†Bruce Street, St. James (2 cases).
*Grove Road.
Gordon Street.
†Victoria Gardens (2 cases).
†Talbot Road.
†Market Street (3 cases).
†Workhouse (from Ash Street).
General Hospital (4 cases, 2 imported).
†St. Anrdew's Street

* Removed to the General Hospital (2 cases).
† Removed to the Broough Hospital (20 cases).

MEASLES.—The epidemic of 1905 was followed, as was to be expected, by a non-epidemic year in 1906, but it was scarcely to be expected that 1906 would be so free from this disease in Northampton as it turned out to be. Only five cases were notified from the schools and no death whatever occurred. This complete freedom from mortality from measles was one of the best features of the year; such a state of affairs has never been reached before so far as our records show, the nearest approach being in the years 1895, 1899, and 1904, when only one death occurred.

TABLE SHOWING DEATHS AND DEATH-RATES FROM MEASLES SINCE THE COMMENCEMENT OF SCHOOL NOTIFICATION.

Year.	Number of cases notified from schools.	Deaths.	Death-rate per 1,000.
1898	542	33	0.54
1899	205	1	0.02
1900	637	21	0.34
Borough	extended.		
1901	314	5	0.05
1902	1157	43	0.48
1903	482	10	0.11
1904	22	1	0.01
1905	2184	15	0.16
1906	5	..	Nil.

Last year I pointed out that the tendency of the disease was to recur in epidemic form every second year, at least since the year 1895. If this tendency be still operative the year 1907 should be an epidemic year, though, considering the great proportions of the epidemic of 1905, it is not likely at any rate as regards number of cases, to be among the worst years in this respect.

The following table shows the number of cases of measles notified from schools during the year where these were confirmed by the parents on investigation :—

	St. James' Council.	Vernon Terrace.	St. Peters.	St. Andrew's.	Total.
January ..	..	..	..	..	..
February ..	..	..	..	..	..
March ..	1	..	..	..	1
April	..	..	..	..	..
May	..	..	..	..	..
June	..	..	..	..	..
July	..	..	..	..	..
August ..	..	..	..	..	..
September	..	..	..	..	..
October ..	..	..	..	..	..
November ..	..	1	..	..	1
December	..	1	1	1	3
TOTAL ..	1	2	1	1	5

WHOOPING COUGH.—The deaths from this disease numbered 8, and the mortality rate was 0.09 per 1,000. This rate is lower by 0.15 than the mortality rate in 1905, and is lower than that of any year since 1876, when our records commence, except the year 1904.

Whooping cough is notifiable from the schools, and it is only in this way that the Health Department obtains any knowledge of the cases. The Health Visitor visits the addresses given, and leaves a leaflet containing instructions on the method of dealing with the case.

The figures showing notifications from the schools are available only since 1904.

TABLE OF DEATHS AND DEATH-RATES FROM WHOOPING COUGH DURING THE LAST ELEVEN YEARS.

Year.	Notifications from schools.	Deaths.	Death-rate per 1,000.
1896	..	12	0.20
1897	..	63	1.03
1898	..	12	0.20
1899	..	11	0.18
1900	..	18	0.29
1901	..	37	0.42
1902	..	25	0.28
1903	..	32	0.36
1904	65	4	0.04
1905	165	22	0.24
1906	51	8	0.09

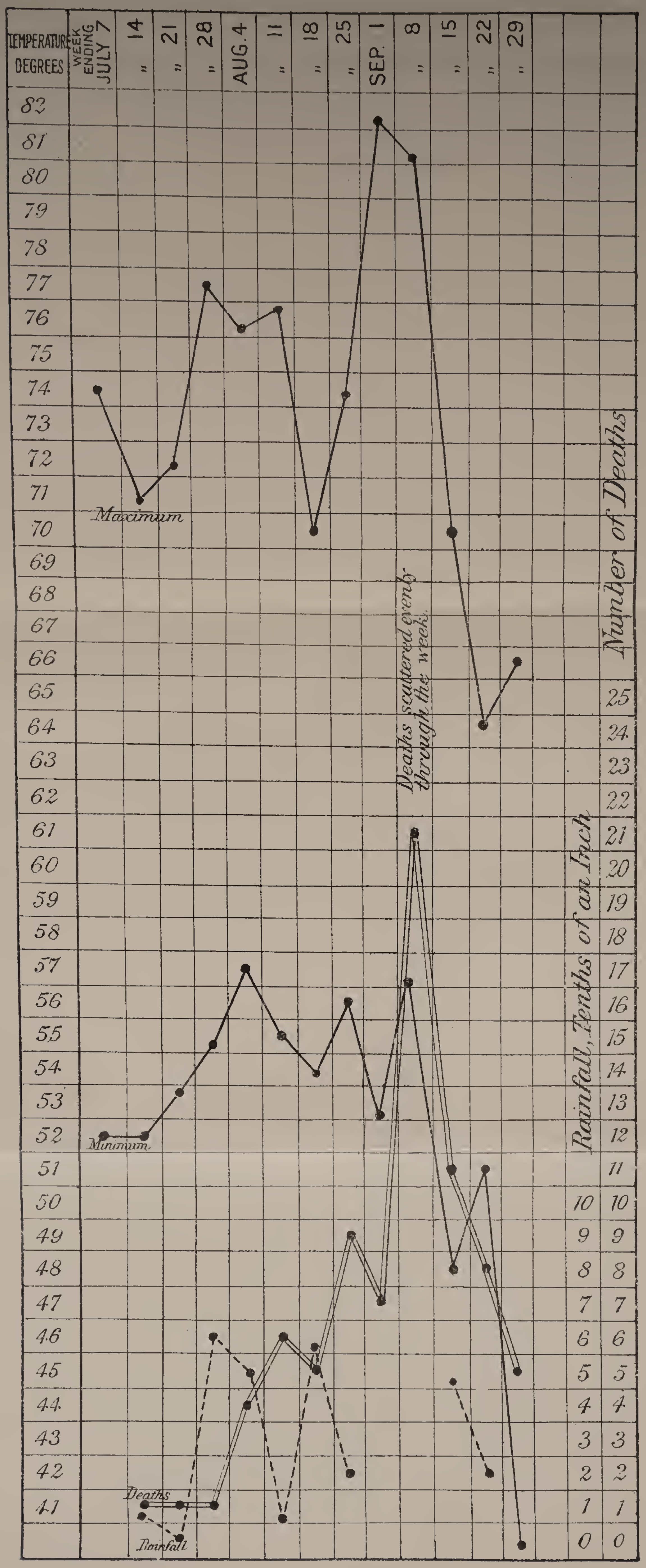
Monthly Table showing various kinds of Diseases (not including Measles) notified from Schools during 1906.

	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total
Scarlet Fever	5	12	12	13	11	5	10	7	4	6	4	1	90
Chickenpox and "Blister" pox	4	4	8	1	1	5	1	..	4	2	4	..	34
Ringworm	10	14	15	10	7	9	8	2	12	7	7	10	111
Whooping Cough	5	38	5	1	2	..	..	..	..	..	..	..	51
Other Diseases sent in as the above, or as Measles, but found on investigation .. not to be as notified	1	14	4	3	2	..	..	..	..	..	3	..	27
TOTALS	25	82	44	28	23	19	19	9	20	15	18	11	313

DIARRHŒA.—The deaths from this disease numbered 54, and the mortality-rate was 0.59 per 1,000. The deaths from enteritis are not included in these numbers. The distinction between the two forms of disease is given in the notes appended to Table IV. at the end. As there was a difference in the method of classification before the year 1901, it is different to compare the years 1901—1906 with previous years. The principles upon which the following table is constructed were given in the report for 1904. As in former years our investigations show that there is no real difference between the two diseases. In stuyding the following table it is to be noted that many of the cases classed as diarrhœa in the earlier years would now be classed as enteritis.

Year.	Deaths from Diarrhœa.	Diarrhœa Death-rate.	Deaths from Enteritis and allied Diseases.	Total.	Diarrhœa and Enteritis Death-rate.
1896	35	0.57	10	45	0.74
1897	50	0.82	16	66	1.08
1898	71	1.16	5	76	1.24
1899	57	0.93	..	57	0 93
1900	33	0.54	..	33	0.54
1901	79	0.91	26	105	1.21
1902	32	0.36	26	58	0.66
1903	30	0.33	23	53	0.59
1904	84	0.93	13	97	1.08
1905	26	0.28	30	56	0.61
1906	54	0.59	40	94	1.03

The death-rate from diarrhœa and enteritis combined reached a high figure, viz., 1.03. This figure is among the highest in the eleven years, though it was surpassed in 1897, 1898, 1901, and 1904, and also in 1895. It is not far off double the figure for 1905. In my report for 1905 I pointed out that the high rate of infantile mortality was largely due to diarrhœa and allied diseases. In 1906 the mortality from these diseases accounted for more than one-fourth of the total mortality (66 out of 240). The mortality from diarrhœa and enteritis is the one great blot upon what was otherwise an exceptionally satisfactory year. It is, therefore, a matter of great interest to examine into the causes for this unfortunate fact. The annexed chart indicates the main features of the summer and early autumn as regards temperature and rainfall, and the curve of deaths from summer diarrhœa is also given.



Rainfall, Dotted line.
Diarrhœa deaths, Double line.

I did not publish the corresponding chart for 1905 as little was to be learnt from it. This year (1906) the chart shows obvious facts which have a decided bearing on the spread of the disease.

In the first place the temperature curve is different from the curves in 1904 and 1905. In each of the latter years the maximum temperature, whether taken from the maximum or the minimum curve, was reached in July, while in 1906 the maximum tempertaure was not reached till the end of August and beginning of September. Each point in the temperature curve represents the average for the week under which it is placed, so that the truly abnormal temperatures reached at the beginning of September are not shown. It may, however, be mentioned that the maximum temperature on August 31st was 93.2; on September 1st, 94.1; on September 2nd, 94.0; and on September 3rd, 91.8. Nevertheless the chart does show that a higher average maximum was reached in 1906, viz. 82.2, than in 1905 (78.2) or 1904 (81.6).

In the second place there was a great difference in the character of the rainfall. The most striking characteristic of the 1906 summer and early autumn rainfall was its scantiness. There was no rain whatever during the weeks ending July 7th, September 1st, September 8th, and September 29th. Compared with former years the facts are seen in the following table:—

RAINFALL.

Year.	Days on which rain fell.			Total rainfall in inches.		
	July.	August.	Sept.	July.	August.	Sept.
1904	10	7	11	2.78	2.75	2.04
1905	8	18	11	0.44	3.07	1.22
1906	10	12	8	0.89	1.46	0.74

Rainstorms—1904. July 25, 1.70; and Aug. 22, 1.20 inch.
1905. No real rainstorm; highest, Aug. 28, 0.54 inch.
1906. ,, ,, ,, July 27th, 0.43; and Aug. 15, 0.42 inch.

There were, however, rainstorms on June 28, when 1.39 inch fell, and on November 8, when 1.23 inch fell.

There were, therefore, in 1906, in the three months, 62 days on which no rain fell; as compared with 1905—55 days, and 1904—64 days. In this resepct 1906 was not abnormal. The total rainfall, however, was exceptionally low, viz. 3.09 inches; as compared with 1905—4.73, and 1904—7.57 inches.

As a rule the number of deaths from diarrhœa reaches nearly its highest point about the end of August. This is noticeable in 1904, when there were 12 deaths in the week ending September 3rd, though this was somewhat lower than the figure for the week ending August 13th. In 1905 the highest figure reached was 7, in the week ending September 2nd. In both these years, however, the temperature had fallen below its maximum for the year. When the period of maximum temperature and the period when the largest number of deaths may be expected, coincide, an exceptional number of deaths may be expected. This occurred in 1906. The highest average weekly temperatures occurred in the weeks ending September 1st and 8th, and the highest number of deaths (viz., 21) occurred in the week ending September 8th.

The supposed relation between drought followed by rainstorm and then a high temperature, mentioned in the report for 1904, was illustrated in 1906. From August 18th to 23rd inclusive there was no rain. On August 24th there was a good deal of rain, amounting to 0.24 inch. This was followed by a period of drought lasting no less than 19 days, from August 25th to September 12th inclusive. During this period the highest temperatures of the year were recorded, and the greatest number of deaths from summer diarrhœa, the worst period beginning about a week after the rainfall of August 24th.

I turn now to the results of the direct investigations of the Health Visitor. Of the 94 deaths recorded as due to diarrhœa and enteritis, no less than 66 were of infants under one year of age. In addition to the deaths under one year of age certified to be due to these causes, diarrhœa was found to be a principal symptom in 16 other cases, viz., in one case of each of the following :—gastric catarrh, gastritis, miningitis, want of breast milk, deficient vitality, and cerebral irritation, also in three cases of convulsions, and in seven of marasmus. Therefore, 82 of the deaths of infants out of the total of 240, or over 33%, were accompanied by, and probably in a large part, if not entirely, due to diarrhœa. Of these 82 cases, 3 were not investigated for various reasons, leaving 79 whose circumstances have been investigated, and a summary of which appears in the following table.

TABLE OF CIRCUMSTANCES OF INFANTS DYING OF DIARRHŒA AND ALLIED DISEASES DURING 1906.

		Jan. to June.	July	Aug.	Sept.	Oct. to Dec.	TOTAL.	
FEEDING.	Breast	1	1	2	1	..	5	
	Breast, later bottle or spoon	3	4	8	15	7	37	
	Bottle	1	..	12	22	2	37	
	TOTAL	5	5	22	38	9	79	
BOTL. USED.	Long-tube	3	3	11	21	3	41	
	Boat	..	1	7	11	5	24	
	Both	1	..	1	2	..	4	
	Milk, boiled	3	4	17	32	9	65	
PHYSIQUE.	Good	4	1	10	21	4	40	79
	Fair	..	..	2	..	..	2	
	Poor, puny, or small	1	4	10	17	5	37	

		Jan. to June.	July.	Aug.	Sept.	Oct. to Dec.	Total.	
HOUSE.	Clean	4	5	20	32	9	70	79
	Dirty	1	..	2	6	..	9	
	Comfortable	2	1	7	21	5	36	79
	Poor	3	4	15	17	4	43	
Weakness of mother		..	2	1	4	..	7	
Stable or slaughter house nr.		..	2	3	5	..	10	
Fowls or Rabbits in Yard		..	..	8	6	2	16	
Flies numerous		..	2	15	24	6	47	

In addition to the above it may be stated that proprietary foods were found to have been used in 17 cases, the following figures perhaps indicating the popularity of the various foods, though it is also possible to conclude that other foods are not mentioned, as the children which were fed on them did not die. There are no figures, unfortunately, at the disposal of the Health Department showing the facts among those children who survived, and it is therefore not possible to express the figures given in this table of circumstances as percentages. The foods used were Neaves' in 6 cases, King's in 2, Benger's in 4, Frame in 1, Allenbury's in 2, Fenings in 1, and Allinson's in 1. Condensed milk was found to be the main article of diet in 8 cases. It has been found in towns where the circumstances of all infants are enquired into that infants fed on condensed milk have a poorer chance of surviving than even those fed on ordinary cows' milk.

The inferences given on pp. 64 and 65 of my report last year can now be tested by another year's experience.

1. The sporadic occurrence of diarrhœa at other seasons than summer and early autumn is confirmed.
2. The comparative immunity of the breast-fed is again clearly evident.
3. Perfect cleanliness in the bottle is of more importance than the type of bottle.—Confirmed. The fact that in 24 cases a properly shaped bottle was used is, however, clear proof that nothing can really take the place of the mother's milk.
4. The boiling of milk is a common practice.—Confirmed.
5. The physique of the child is not of much importance. This, which was rendered doubtful by the 1905 results, is, however, confirmed by the results of the 1906 investigations.
6. Filthy conditions in the house have little influence. This surprising fact is again confirmed.
7. Poverty has some influence, but the disease is also found in the houses of well-to-do artizans.—Confirmed.
8. Weakness in the mother has little influence. This was not confirmed in 1905, but appears partly confirmed in 1906.
9. Stables and slaughter houses have some influence.—Confirmed in 1906, though not in 1905.
10. Flies have an important bearing on the matter. The proportion of cases where the presence of many flies was noted is large.

11. The influence of infection was dwelt on last year. Similar facts were found during 1906. In the 79 cases, 28 were found in which there was evidence more or less conclusive of the factor of infection. Excluding 4 of these where the evidence was doubtful, there remain 24, or 30.1 %, where there was a history of diarrhœa among other members of the same household, or among friends who visited the house, either before or after the illness of the child who died. The percentages found in 1905 and 1904 were 32.6 and 31.4.

Before leaving this subject I desire to emphasise its extreme importance. Only 2 deaths were certified as due to diarrhœa under the age of one month, the remainder occurred chiefly from the third to the ninth month, when the children might have been expected to survive, as their vitality was well established. In addition, the 82 deaths among infants were as numerous as the deaths from either malignant disease or pulmonary consumption among the whole population.

The subjoined Table gives the number of Deaths in each year both Zymotic and General, for the 25 years 1882 to 1906, and

	1882	1883	1884	1885	1886	1887	1888	1889	1890	1891	1892
Smallpox ..	4	..	..	..	..	..	..	..	..	..	..
Measles	23	11	3	72	31	35	4	57	11	35	14
Scarlet Fever ..	11	23	11	6	24	38	22	15	4	1	2
Diphtheria or Membranous Croup	1	2	9	3	5	2	2	1	..	4	2
Whooping Cough ..	23	43	9	49	27	34	8	43	17	25	14
Fever.. ..	6	4	12	4	3	7	7	4	1	5	5
Diarrhœa	24	33	133	31	55	62	32	55	61	36	21
Deaths from the seven Zymotic Diseases	92	116	177	165	145	178	75	175	94	106	58
Total deaths for each year ..	962	927	999	1064	996	1025	963	1062	1080	1133	962
Death-rate from the seven Zymotic Diseases per 1,000	1.74	2.15	3.2	2.9	2.5	3.1	1.2	2.9	1.5	1.7	0.9
General Death-rate	18.2	17.2	18.2	19.1	17.6	17.8	16.5	17.9	17.9	18.5	15.7

from the Seven Principal Zymotic Diseases, and the Death-rates, the Annual Average for the decennial period 1897 to 1906.

								Borough extended.						
1893	1894	1895	1896	1897	1898	1899	1900	1901	1902	1903	1904	1905	1906	Average for 10 years 1897–1906.
..	..	..	..	..	..	..	..	..	..	..	1	..	..	0.1
52	20	1	114	2	33	1	21	5	43	10	1	15	..	13.1
3	5	4	4	41	15	11	3	3	2	24	40	16	5	16.0
5	3	6	2	1	2	2	6	9	11	18	9	14	7	7.9
28	31	8	12	63	12	11	18	37	25	32	4	22	8	23.2
5	6	7	1	7	4	11	17	13	17	6	..	1	10	8.6
62	19	67	35	50	71	57	33	79	36	30	84	26	54	52.0
155	84	93	168	164	137	93	98	146	134	120	139	94	84	120.9
1070	908	913	979	1042	995	921	951	1216	1294	1219	1185	1159	1061	1104
2.5	1.4	1.5	2.7	2.7	2.2	1.5	1.6	1.9	1.5	1.3	1.5	1.0	0.9	1.6
17.5	14.8	14.9	16.0	17.0	16.2	15.0	15.5	13.9	14.6	13.5	13.1	12.7	11.6	14.3

NOTIFICATIONS OF DISEASE BY THE MEDICAL OFFICER OF HEALTH.—During the year 247 notices of the existence of infectious disease in the homes of children attending school were sent to the school managers, the object being to prevent children carrying infection from their homes to their schoolfellows by excluding them from the schools.

Similar information was sent to the Public Library, the total number of notices sent amounting to 116.

ZYMOTIC DISEASES: Comparison.—The following table contains the report of the Registrar-General on the zymotic death-rate in England and Wales, etc., with similar information added as regards Northampton for purposes of comparison.

Annual Death-rates from certain Epidemic Diseases during the year 1906.

	Zymotic Death Rate.	Small-pox.	Measles	Scarlet Fever.	Diphtheria.	Whooping Cough.	Fever (Typhoid chiefly).	Diarrhœa.
England and Wales ..	1.73	0.00	0.27	0.10	0.17	0.23	0.09	0.87
76 Great Towns ..	2.21	0.00	0.40	0.12	0.19	0.28	0.09	1.16
142 Smaller Towns ..	1.71	..	0.22	0.09	0.17	0.20	0.09	0.94
England and Wales, less the 218 towns ..	1.18	0.00	0.14	0.08	0.16	0.19	0.09	0.52
NORTHAMPTON ..	**0.92**	..	..	**0.05**	**0.08**	**0.09**	**0.11**	**1.03**

REFUSE DESTRUCTOR.—The following information has been kindly communicated to me by the Borough Surveyor :—

"The whole of the refuse of the town, with the exception of the Kingsthorpe district, is burned at the destructor. The refuse of the Kingsthorpe district is tipped on some irregular ground on the Harborough Road."

"The destructor is capable of dealing with 80 tons of refuse per day of 24 hours. The average daily consumption is about 50 tons."

" The whole of the steam raised is utilised at the Tramway Power Station, and is the means of reducing the coal bill considerably. The Tramways Committee pays to the Highways Committee £350 for this steam during the year."

" The destructor is of Heenan and Froude's type, and consists of two units of four cells each, fitted with Howden's forced draught, the air being driven by a fan through the air heater in the main flue and delivered into the cells at a pressure of about 2″ water guage. Parallel to each unit there is a Lancashire boiler, through which the heat from the destructor passes, and in which it generates the whole of the steam produced without the aid of coal.

" The general character of the refuse delivered to the destructor is poor and of low calorific value, the resulting clinker averaging about 20%, which is considerably below the average of other towns, owing to the low local coal consumption."

MIDWIVES ACT, 1902.—As mentioned last year, there were 10 registered midwives in practice in Northampton in 1906. Of these, 9 were registered on the ground of having been in practice one year prior to the passing of the Act, and 1 on the ground of possessing the L.O.S. diploma. All of these notified their intention to practice during the year, though some of them failed to do so till reminded of their duty in this particular. Most of these registered midwives carry on small practices only, so that comparatively few sent in the required notifications. On enquiry into this, they gave as a reason that the circumstances requiring notification had never arisen. There were, however, received from 4 midwives, 17 records of sending for medical help, 20 notifications of the birth of a still-born child, and one notification of the death of the mother. In the last case an inquest was held, but the midwife was exonerated from blame after the jury had heard the evidence of the medical man who made the post-mortem.

Several of the midwives are illiterate, or nearly so, so that a difficulty has been found in making them keep proper case books, but the difficulty is being overcome. Again, several were unable to read a clinical thermometer ; this difficulty I have overcome by getting the Health Visitor, who is a trained nurse, to visit them and teach them the use of the thermometer.

As executive officer under the Midwives Act, I have visited these midwives, visiting each on two occasions at least during the year, and in certain cases oftener, in order to get the rules of the Central Midwives Board attended to.

Only two cases of puerperal fever were notified during the year under the provisions of the Infectious Diseases Notification Act.

WARDS.—In the following summary I have treated each Ward as a separate town. I have again obtained by the courtesy of the Secretary of the Education Committee the number of births in each Ward. There is, however, some discrepancy in the total number of births given in this table, 1966, and the number of births, 1985, given earlier in this report. The cause of the discrepancy is that the birth returns are sent to the Education Department only at long intervals, and the returns for the first six weeks of the year 1906 have not been sent to that department at the date of writing this report. As a period of 42 days is allowed for the registration of a birth, it follows that many births reported in the first six weeks of 1907 should be credited to 1906. To obtain an approximation to the true numbers I have, therefore, been compelled to consider only the births reported to the Education Department during the year 1906, although these are really the births which occurred between the middle of November, 1905, and the middle of November, 1906.

The effect of the presence of institutions in the various wards has been eliminated as far as possible by obtaining the home addresses of those who died in the General Hospital and the Workhouse, and distributing these deaths to the wards from which they came. In a few cases, however, this could not be done, either because the home address was not known, or the stay of the person in the Workhouse had exceeded a year.

	St. Michael.	Castle.	St. Crispin.	South.	North.	Kingsthorpe.	St. James.	Far Cotton.	St. Edmund.	Borough.
Population, Mid. 1906	14347	10401	11027	7278	13769	10484	8830	4948	10556	91640
Inhabited houses, 1901	2750	2179	2182	1618	2733	1886	1482	908	1864	17602
Deaths, 1906	160	145	150	105	171	94	106	36	94	1061
Zymotic deaths (7 principal z. diseases)	12	13	12	5	15	2	12	5	8	84
Cases of scarlet fever notified ..	61	9	19	25	18	42	39	17	46	276
Deaths from scarlet fever	3	..	..	..	..	..	..	..	2	5
Births	281	247	216	131	375	219	195	103	199	1966
Deaths of infants (under one year)	34	38	31	20	47	19	30	8	13	240
Deaths from phthisis	12	13	14	6	16	5	8	..	6	80
Deaths from other tubercular diseases	2	2	5	5	4	1	5	2	5	31
Total deaths from tubercular diseases	14	15	19	11	20	6	13	2	11	111
Deaths from diarrhœa and enteritis	10	15	11	7	23	3	17	4	4	94
No. of inhabitants per house (1901) ..	4.99	5.13	5.11	4.87	5.04	4.76	4.80	4.50	4.88	4.94
Death-rate	11.15	13.94	13.60	14.43	12.42	8.97	12.00	7.28	8.91	11.58
Zymotic death-rate	0.84	1.25	1.09	0.69	1.09	0.19	1.36	1.01	0.76	0.92
Attack rate of scarlet fever per 1,000	4.25	0.86	1.72	3.43	1.31	4.01	4.42	3.44	4.36	3.01
Case mortality of scarlet fever per cent.	4.92	..	..	..	..	..	..	..	4.35	1.81
Birth-rate	19.59	23.75	19.59	18.00	27.24	20.89	22.08	20.82	18.85	21.45
Infant mortality rate per 1,000 births	121.00	153.84	143.52	152.67	125.33	86.76	153.84	77.67	65.33	120.90
Phthisis death-rate	0.84	1.25	1.27	0.82	1.16	0.48	0.91	..	0.57	0.87
Total tubercular disease death-rate	0.98	1.44	1.72	1.51	1.45	0.57	1.47	0.40	1.04	1.21
Diarrhœa and enteritis death-rate ..	0.70	1.44	1.00	0.96	1.67	0.29	1.92	0.81	0.38	1.03

The following statements apply to the year 1906 only :—

St. Michael Ward is the most populous in the town. Its death-rate approximated closely to that of the town generally, as did its zymotic death-rate, and the phthisis death-rate, though all were slightly below the average. It was one of the only two wards with which any deaths from scarlet fever were connected, and for the year its attack-rate from scarlet fever was high. The birth-rate was below the average. The infant mortality rate was the same as in the town generally. Diarrhœa and enteritis were below the average.

Castle Ward is one of three (the others being Kingsthorpe and St. Edmund) which have practically the same population. Its death-rate was high compared with the rest of the town, but comparatively low compared with the large towns generally. Its zymotic death-rate was high, but the attack rate from scarlet fever reached its lowest point in this ward. The birth-rate was above the average, and the infant mortality rate was at its highest. The phthisis and diarrhœa and enteritis death-rates were also high.

St. Crispin Ward had a high death-rate, a low birth-rate, and a high infant mortality rate. The phthisis and total tubercular disease death-rates here reached their highest points.

South Ward, which is the smallest ward except Far Cotton, had the highest death-rate in the town, which, however, was 1.0 per 1,000 below that of the country generally. On the other hand the zymotic death-rate here reached nearly its lowest point. The birth-rate was also at its lowest in this ward, but the infant mortality rate was very heavy, practically equalling that of the Castle Ward.

North Ward, which is the second most populous ward, had a death-rate above the average, but its birth-rate was the highest in the town, the infant mortality rate was only slightly above the average. The phthisis, total tubercular, and diarrhœa and enteritis death-rates were also comparatively heavy.

Kingsthorpe Ward maintained its reputation as a healthy ward, Its death-rate was much below the average, and stood at the fine figure of under 9. The zymotic death-rate nearly reached vanishing point. The birth-rate was a little below the average, but the infant mortality rate was exceptionally low. The phthisis and total tubercular death-rates were very low, and the diarrhœa and enteritis death-rate reached its lowest point.

St. James Ward, considering it is an outlying district, and therefore fairly comparable with Far Cotton and Kingsthorpe, comes out badly. Its death-rate was above the average. The zymotic death-rate, the scarlet fever attack rate, and the diarrhœa and enteritis death-rate here reached their highest points, and the infant mortality rate equalled that of the worst ward in this respect, viz., the Castle Ward. The birth-rate was slightly above the average.

Far Cotton, as usual, comes out well. Its death-rate was the lowest in the town, and stood at the phenomenally low figure of 7.28. There was no mortality from phthisis whatever, and only two deaths occurred from other tubercular diseases. The birth-rate was below the average, and the infant mortality rate was nearly the lowest in the town, being second only to St. Edmund Ward in this respect. The zymotic death-rate was a little above the diarrhœa, and enteritis death-rate a little below the average.

St. Edmund Ward stands well. The death-rate was very low, rivalling Kingsthorpe. A small mortality occurred from scarlet fever. The birth-rate was almost the lowest in the town, and the infant mortality rate here reached its lowest point, standing at the fine figure of just over 65. Phthisis mortality was low, and the diarrhœa and enteritis death-rate was lower than in any ward except Kingsthorpe.

The ward which comes out worst is the South Ward, while the best on the whole is Far Cotton, though other wards have, in some single respects, better figures.

It should be noted that the words " high " and " low " used in the foregoing description are meant to be applied relatively to the various parts of Northampton only. Compared with some other towns, the South Ward would appear fairly healthy.

THE BOROUGH HOSPITALS.

The Smallpox Hospital.—No case was admitted to this hospital during the year.

Yearly admissions to the smallpox hospital since its erection in 1900 :—

1900.	1901.	1902.	1903.	1904.	1905.	1906.
—	—	2	38	4	2	—

The Borough Hospital, Harborough Road.—The cases dealt with during 1906 were :—

DISEASE.	TOTAL ADMITTED.	DIED.	RECOVERED.	UNDER TREATMENT JAN. 1ST, 1907.
Scarlet fever	207	5	175	27
Typhoid fever	20	4	12	4
Diphtheria ..	4	..	4	..

On January 1st, 1906, there were 72 patients in the hospital ; there were, therefore, in the wards during the year, 303 persons. For a certain number of patients contributions to the cost of their maintenance were received ; these were chiefly cases chargeable to the Guardians.

Admissions from the various wards :—

	SCARLET FEVER.	TYPHOID FEVER.	DIPHTHERIA.	TOTAL.
St. Michael	44	5	..	49
Castle	7	1	..	8
St. Crispin	15	2	1	18
South	23	2	..	25
North	13	2	1	16
Kingsthorpe	34	..	..	34
St. James	28	4	1	33
Far Cotton	9	1	1	11
St. Edmund	35	3	..	38
BOROUGH	207	20	4	231

Yearly admissions to the Borough Hospital since 1892 :—

YEAR.	SCARLET FEVER.	TYPHOID.	DIPHTHERIA.	TOTAL FOR YEAR.
1892	126	11	1	138 + 2 (smallpox)
1893	66	..	..	66 + 47 ,,
1894	200	4	2	206
1895	140	10	1	151
1896	165	12	1	178
1897	438	1	..	439
1898	322	16	4	342
1899	232	23	..	255
1900	71	44	1	116
1901	115	41	6	162
1902	124	35	15	174
1903	410	7	14	431
1904	717	..	..	717
1905	436	4	..	440
1906	207	20	4	231
TOTALS	3769	228	49	4095

No deaths occurred from diphtheria, but there were four from typhoid fever. The mortality rate per cent. from scarlet fever was 2.41, a figure which is the same as that for 1903, but greater than those for 1904 and 1905. One case, however, was brought in moribund, and died within half-an-hour of admission; if this death be eliminated, the rate is 1.93. No death occurred among those treated at home, but as recorded in an earlier part of this report, nearly 75% of all the cases notified were removed to hospital.

Scarlet fever mortality rates per cent at the hospital:—

1894.	1895.	1896.	1897.	1898.	1899.	1900.
1.0	3.6	2.6	4.1	2.5	3.0	2.8
1901.	1902.	1903.	1904.	1905.	1906.	
1.7	1.6	2.4	1.1	1.4	2.4	

Complications (in the scarlet fever cases).—The following complications occurred among the 207 cases. Each complication is recorded, even when present in the smallest degree, hence in the vast majority of cases these complications were of slight importance. Many of the severe cases had more than one complication, but for the purposes of this table each complication is reckoned separately.

Adenitis occurred	in	21	cases.	
Rhinorrhœa	,,	21	,,	
Otorrhœa, right	,,	5	,,	20
,, left	,,	7	,,	
,, both right and left		8	,,	
Rheumatism occurred	in	11	cases	
Tonsillitis	,,	11	,,	
Secondary rash	,,	10	,,	
Cardiac Murmurs	,,	9	,,	
Cardiac Irregularity	,,	9	,,	
Albuminuria	,,	8	,,	
Ringworm (present on admission).	,,	8	,,	
Conjunctivitis	,,	6	,,	
Abscesses	,,	5	,,	
Diarrhœa	,,	3	,,	
Marginal blepharitis	,,	3	,,	
Impetigo	,,	3	,,	
Bedsores (present on admission)	,,	2	,,	
Pneumonia occurred	in	2	cases	
Attacks of syncope	,,	2	,,	
Influenza	,,	2	,,	
Whooping cough	,,	1	,,	
Infantile paralysis	,,	1	,,	
Eczema	,,	1	,,	
Psoriasis	,,	1	,,	
Local oedema	,,	1	,,	
Erythema fugax	,,	1	,,	
Inflammation of Mandibular Joint	,,	1	,,	
Navel Discharge	,,	1	,,	
Hordeolum	,,	1	,,	
Urticaria	,,	1	,,	

Renal complications indicated by albuminuria were infrequent during the year, occurring only in 8 cases, but of these 3 died ; in the remainder the albuminuria was of short duration—under ten days.

Adenitis, rhinorrhœa, and otorrhœa are generally indications only of the severity of the disease.

The frequency of secondary rashes is noteworthy. As a rule they were not accompanied by any sign of constitutional disturbance.

Twelve cases must be classified as doubtful, but it is possible that an exceedingly mild attack had occurred not followed by desquamation.

In one case apparently two genuine attacks occurred, separated only by a short interval, as the second attack occurred when the patient was recovering from the first attack and was nearly ready to be discharged.

Disinfection.—Owing to the diminution in the number of cases, only two wards were in use for scarlet fever during the greater part of the year. In consequence, the division of the patients into acute, early convalescent, and late convalescent, became no longer possible, but the comparative emptiness of the wards prevented any increase in the number of return cases from this cause.

Welford Road Hospital.—As mentioned earlier in this report, in the section dealing with phthisis, this hospital was opened on February 9th, 1906, for the reception of advanced cases of pulmonary consumption. By the end of the year 23 cases had been admitted, of whom 9 died in the hospital, and 6 were under treatment at the close of the year. The remaining cases had been discharged for various reasons.

Before leaving this section I wish again to express my appreciation of the work of the matrons and staffs of both hospitals.

WATER SUPPLY.—This has been in the hands of the Corporation since the year 1884. There are three sources from which Northampton derives its supply of water ; these are the reservoir at Ravensthorpe, the Billing Road well, and the new well at Ravensthorpe.

The Ravensthorpe Reservoir.—This is situated about eight miles from Northampton ; it receives the surface water from a gathering ground of about 3,000 acres. This is mainly under grass, but is in part cultivated land. The population within its boundaries numbers about 100, and special arrangements have been made to deal with the sewage from this population. The great protection against danger from a gathering ground of this type is the collection of the water in a large reservoir, where the purifying agencies of sun, of air, and of the living inhabitants of the water have time to exert their effort. Supplementing these are filters, and the result is a water which reaches a fair standard of purity.

Samples of town water are from time to time sent for chemical and bacteriological analysis. The following reports are from the public analyst, Sir Thomas Stevenson :—

May 31st, 1906.—" This is a slightly alkaline water of low temporary hardness. Its organic purity is good. It is a water well fitted for drinking purposes and domestic use."

December 15th, 1906.—" This water is an alkaline water of moderate hardness. It is of moderate purity. I see no reason to doubt its wholesomeness and fitness for all domestic purposes."

The following bacteriological report is from the Lister Institute of Preventive Medicine :—

June 13th, 1906.—" The bacteriological examination of this sample of water is satisfactory, and gives no indication of any pollution of the same."

The Ravensthorpe reservoir contains, when full, about 400,000,000 gallons. Of this amount probably 40,000,000 gallons would not be available for supply. The reservoir contains, when full, on the present consumption, about 250 days' supply. On January 1st, 1903, the level of the water in the reservoir stood 10-feet 7-inches below the sill of the dam ; on January 1st, 1904, the reservoir was overflowing ; on January 1st, 1905, the level was 5-feet below the sill ; on January 1st, 1906, 10-feet 4-inches ; on January 1st, 1907, 3-feet 11½-inches. The total rainfall at the gathering ground during 1906 was 28.87 inches.

Billing Road Well.—This is a " deep " well, penetrating as it does about 150-feet of impervious clay on its way to the water-bearing stratum, from which it derives its perennial flow. The total depth of the well is 172-feet, and over 20-feet of this is constantly occupied with water which the constant pumping operations do not reduce so long as a certain limit is not passed. During 1906 this limit was 328,000 gallons daily. The water is pure, but like all deep well water, is hard. A fairly satisfactory water is produced by mixing it with water derived from the Ravensthorpe reservoir.

New Well at Ravensthorpe.—The trial shaft of this well was sunk at a distance of about 500-feet from the reservoir, and at a lower level. The depth reached was 90-feet. The water-bearing marlstone stratum was penetrated at a depth of 86-feet, and from this point a heading has been driven 562-feet in length. The permanent shaft of the well is situated in the engine house, and is 87-feet deep. The average daily supply of water is rather over 300,000 gallons. I am informed by the Water Engineer that the pumping of water from this well has no effect on the Billing Road well, though both derive their supply from the same stratum.

A sample of the water from this well was forwarded to Sir Thomas Stevenson by the Water Engineer. His certificate of analysis, dated May 7th, 1906, states :—"This water is organically pure, somewhat saline, and distinctly alkaline from the presence of sodium carbonate, as is the case with many deep well waters. It is of moderate hardness, and the whole of the hardness is removed by boiling. If it can be obtained in a clear condition, this well should form a good source of domestic supply."

The construction of this well was commenced August, 1905, and it is not yet finally completed. The approximate cost is estimated at £12,850, or in other words, for this amount a supply of 300,000 gallons daily has been added to the town's water resources.

Special Non-potable Water Supply.—This is derived from the Tower well, and the Cattle Market Paddock well, and about 200,000 gallons daily are available. On the average 150,000 gallons daily are utilised throughout the year. This water is used for street watering, sewer flushing, and as a water supply for trade purposes where a high-class water is not required.

Including the non-domestic supply the average daily quantity of water supplied to the town during the year ending March 25th, 1907, was 1,610,000 gallons, or an average daily supply of about 17.6 gallons per head of the population. This figure is still low, but it is an improvement on the *per capita* supply of previous years.

METEOROLOGY.—The accompanying table has been constructed from figures supplied to me by Mr. R. H. Primavesi, optician, Gold Street.

The year was marked by a considerable rainfall, which was above the average. The total rainfall of 26-inches was 7½-inches greater than that for the preceding year, and 4-inches above the fall in 1904, but it was 6-inches less than the fall in 1903. The driest month of the twelve was April as regards total rainfall, though it was equalled by September as regards the number of days on which rain fell. January was the wettest month as regards amount of rainfall, though it was nearly equalled by October, in which, too, there was one more day of rain. Two rainstorms occurred, one on June 28th (1.39-inches), the other on November 8th (1.23-inches).

August was the warmest month as regards mean temperature, though the maximum temperature was reached on September 1st, when the truly remarkable figure of 94.1° was reached. Four days of abnormally high temperature occurred, viz. :—August 31st, 93.2° ; September 1st, 94.1° ; September 2nd, 94.0° ; September 3rd, 91.8°.

The coldest month was December as regards mean temperature, and the actually lowest temperature occurred in that month, viz., 19.7° on the 27th. In this month also there were the greatest number of nights at or below freezing point.

The predominant winds blew from the south-west quadrant. Winds came from the western half of the compass about twice as often as from the eastern.

The connection between weather and disease was strikingly illustrated during the year by the great increase in the mortality from summer diarrhœa in September.

MONTH.	RAINFALL.				TEMPERATURE.						DIRECTION OF WIND.			
	Total inches.	Greatest in 24 hours.		Days in which 0.01 in. or more fell.	Mean.	Maximum.		Minimum.		No. of Nights at or below 32 deg.	S.W. Quadrant including W. Days.	S.E. Quadrant including S. Days.	N.E. Quadrant including E. Days.	N.W. Quadrant including N. Days.
		Depth.	Date.			Deg.	Date.	Deg.	Date.					
January	4.01	0.64	5	21	41.38	53.1	27	29.4	20	6	18	7	. .	6
February	2.19	0.45	8	17	38.16	48.8	10	24.6	6	15	13	3	3	9
March . .	1.27	0.20	11	19	41.97	66.3	7	27.5	13	11	11	2	9	9
April . .	0.54	0.14	27	8	43.99	73.5	12	30.0	20 & 27	4	8	2	10	10
May . .	1.43	0.34	20	17	53.34	77.2	8	32.2	18	. .	10	6	8	7
June . .	3.86	1.39	28	12	58.79	80.0	8	36.8	5	. .	9	3	12	6
July . .	0.89	0.43	27	10	64.02	83.2	30	44.7	1	. .	15	4	7	5
August . .	1.46	0.42	15	12	65.21	93.2	31	45.4	30	. .	16	9	2	4
September	0.74	0.26	14	8	60.34	94.1	1	34.9	26	. .	5	4	9	12
October . .	3.95	0.71	18	22	51.38	70.5	1	33.9	26	. .	12	11	2	6
November	3.59	1.23	8	14	45.32	59.8	22	29.2	19	3	14	3	8	5
December	2.18	0.40	15	20	36.68	53.8	2 & 4	19.7	27	18	12	2	3	14
YEAR 1906	26.11	1.39	June28	180	50.05	94.1	Sept.1	19.7	Dec.27	57	143	56	73	93

Sanitary Administration.

SANITARY ADMINISTRATION.—I have to express my appreciation of the work done by the Sanitary Inspectors. Throughout the year they have all given me willing and intelligent assistance.

I cannot let this opportunity pass without referring to the great loss which the department has sustained by the appointment of the Chief Inspector to the Chief Inspectorship of Bradford. Mr. White left Northampton just after the close of the year under review. While one cannot but congratulate him on his transference to an important position in a larger centre, I feel that Northampton has lost an able painstaking, and careful official, who had a thorough knowledge of his work, and of the sanitary circumstanees of the town. His work in this department has always been of the most valuable kind, and he was one in whose hands I could place a difficult matter with the certainty that it would be well and properly attended to. Besides being thorough his work was tactful, a quality especially necessary in sanitary work.

SPECIAL REPORTS BY THE SANITARY INSPECTORS.—I have received 69 of these during the year, viz. :—11 by Mr. White, of which 3 were especially well done ; 33 by Mr. Harper, of which 3 were of special value ; 8 by Mr. Barker, of which 3 were specially good ; 10 by Mr. Jepson, of which 3 were of special value ; and 7 by Miss Gough, of which 1 was of special importance. These do not include the annual reports on their work furnished to me by the inspectors, all of which were well drawn up.

The subjects dealt with in these reports covered a variety of subjects, *e.g.*, 26 were on matters connected with drainage, others on such matters as alleged overcrowding, house inspection, milkshops, cowsheds, smoke observations, etc.

INSANITARY DWELLINGS.—The number of dwellings reported to the Sanitary Authority during the year in accordance with the procedure authorised by the Housing of the Working Classes Act, 1890, was 35. These were :—

2, Alpha Street.
2, Currie Road.
1—6, Johnson's Row.
9, Johnson's Row.
52, Silver Street.
16, 18, Bath Street.
1, 2, court 2, Foundry Street.
7, 8, 9, Johnson's Buildings.

Annual Report of the Medical Officer of Health for the Year 1906,

FOR THE

County Borough of Northampton,

On the Administration of the FACTORY AND WORKSHOP ACT, 1901, in connection with

Factories, Workshops, Laundries, Workplaces and Homework.

1.—INSPECTION.

Including Inspections made by Sanitary Inpectors or Inspectors of Nuisances.

Premises. (1).	Number of Inspections. (2)	Number of Written Notices. (3)	Number of Prosecutions. (4)
Factories (Including Factory Laundries).	16	10	..
Workshops (Including Workshop Laundries.)	252	114	..
Workplaces (Other than Outworkers' premises included in Part 3 of this Report.)	2	1	..
Total	270	125	..

2.—DEFECTS FOUND.

Particulars. (1)	Number of Defects. Found. (2)	Number of Defects. Remedied. (3)	Number of Defects. Referred to H.M. Inspector. (4).	Number of Prosecutions. (5)
*Nuisances under the Public Health Acts :—**				
Want of Cleanliness	150	150	..	..
Want of Ventilation	1	1	..	..
Overcrowding	6	6	..	..
Want of Drainage of floors	1	1	..	..
Other Nuisances	138	136	..	..
†Sanitary accommodation insufficient	10	10	..	..
†Sanitary accommodation unsuitable or defective	17	17	..	..
†Sanitary accommodation not separate for sexes	3	3	..	..
Offences under the Factory and Workshop Act :—				
Illegal occupation of underground bakehouse (s. 101)	..	..	..	..
Breach of special sanitary requirements for bakehouses (ss. 97 to 100).	42	42	..	..
Other offences (Excluding offences relating to outwork which are included in Part 3 of this Report.)	2	2	..	..
Total	370	368	..	..

* Including those specified in sections 2, 3, 7 and 8, of the Factory and Workshop Act as remediable under the Public Health Acts.

† Section 22 of the Public Health Acts Amendment Act, 1890, has been adopted by the Town Council. The standard of sufficiency and suitability of sanitary accommodation enforced is the same as that of the Sanitary Accommodation Order of February 4th, 1903.

3.—HOMEWORK.

NATURE OF WORK.	OUTWORKERS' LISTS, SECTION 107.								Number of Inspections of Outworkers' premises.	OUTWORK IN UNWHOLESOME PREMISES, SECTION 108.			OUTWORK IN INFECTED PREMISES, SECTIONS 109, 110		
	Lists received from Employers.				Numbers of Addresses of Outworkers received from other Councils.	Numbers of Addresses of Outworkers forwarded to other Councils.	Prosecutions.			Instances.	Notices served.	Prosecutions.	Instances.	Orders made (S. 110)	Prosecutions (Sections 109, 110)
	Twice in the year.		Once in the year.				Failing to keep or permit inspection of Lists.	Failing to send Lists.							
(1)	Lists. (2)	Outworkers. (3)	Lists. (4)	Outworkers. (5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
Wearing Apparel—															
(1) Making, &c.	11	421	58	465	9	78	..	..	493	107	101	..	2	..	..
(2) Cleaning and Washing	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..

Lace, Lace Curtains and Nets, Furniture and Upholstery, Fur Pulling, Umbrellas, Paper Bags and Boxes, Brush Making, Stuffed Toys, File Making, Electro Plate, Cables and Chains, Anchors and Grapnels, Cart Gear, Locks, Latches, and Keys.—No Outworkers in these trades.

4.—REGISTERED WORKSHOPS.

Workshops on the Register (s. 131) at the end of the year. (1)	Number. (2)
Number of Workshops on Register	408
Number of Outworkers' Premises on the Register	527
Total number of Workshops on Register	935

5.—OTHER MATTERS.

Class. (1)	Number. (2)
MATTERS NOTIFIED TO H.M. INSPECTOR OF FACTORIES :—	
Failure to affix abstract of Factory and Workshop Act (S. 133)	39
Action taken in matters referred by H.M. Inspector as remediable under the Public Health Acts, but not under the Factory and Workshop Act (S. 5): Notified by H.M. Inspector	25
Action taken in matters referred by H.M. Inspector as remediable under the Public Health Acts, but not under the Factory and Workshop Act (S. 5): Reports (of action taken) sent to Town Clerk and H.M. Inspector	24
Other	..
Underground Bakehouses (s. 101)	
Certificates granted during the year	..
In use at the end of the year	1

Date, April 8th, 1907. (Signature) JAMES BEATTY, Medical Officer of Health.

NOTE.—The Factory and Workshop Act, 1901 (s. 132), requires the Medical Officer of Health in his Annual Report to the District Council, to report specifically on the administration of that Act in workshops and workplaces, and to send a copy of his Annual Report, or so much of it as deals with this subject, to the Secretary of State (Home Office). If the Annual Report is presented otherwise than in print, it is unnecessary to include in the copy sent to the Home Office the portions which do not relate to factories, workshops, laundries, workplaces, or homework. The duties of Local Authorities and the Medical Officer of Health under the Act of 1901, are detailed in the Home Office Memorandum of December, 1904. A further Memorandum, on the Home Work Provisions of the Factory Act, was issued to all District Councils and Medical Officers of Health in October, 1906.

28, Freeschool Street.
17—24, St. George's Square.
1—6, court 3, Scarletwell Street.
1—3, Green's Yard, Upper Mounts.

The defects at 2, Alpha Street and 2, Currie Road may be summed up as general dirt and dilapidation; they have been remedied.

Nos. 1—6, and 9, Johnson's Row were generally dilapidated, and were also damp owing to defective floors. No. 1 was specially bad, and has been closed; the others were repaired and the floors relaid.

No. 52, Silver Street was filthy and damp, and the living-room was of insufficient height. The floor was lowered and relaid, and the house cleansed.

Nos. 16 and 18, Bath Street were generally dilapidated, and their ventilation was defective. The defects have been remedied.

Nos. 1 and 2, court 2, Foundry Street, were damp, dilapidated, dirty, and without through ventilation. They have been closed by order of the magistrates.

Nos. 7, 8 and 9, Johnson's Buildings were dilapidated, damp, and without proper ventilation. They have been closed by order of the magistrates.

No. 28, Freeschool Street was filthy, infested with vermin, dilapidated, and without proper ventilation. It has been closed by order of the magistrates.

Nos. 17 to 23, St. George's Square were damp owing to defective construction, and to defects in the walls. These have been remedied.

No. 24, St. George's Square was dirty and damp. It has been closed by order of the magistrates.

Nos. 1 to 6, court 3, Scarletwell Street were dirty and damp. No. 1 has been closed, and the defects in the remainder remedied.

Nos. 1 to 3, Green's Yard, Upper Mounts, were dilapidated and damp. The defects are being remedied. Delay in doing this was due to their position abutting on Government property.

FACTORY AND WORKSHOP ACT.—The following is the new form in which reports of work done under this Act must be sent to the Home Office. It will be noticed that once in the year many firms forgot their obligation to send in lists of outworkers twice yearly to the Council. Reminders were sent after the August lists should have been sent in to all firms likely to employ outworkers, and these caused the requirements of the Act to be attended to.

SHOP ACTS.—The inspector appointed under these Acts, Miss Gough, reports that during the year she made 839 visits in carrying out her duties. Her duties mainly consist in seeing that seats (one seat to every three females employed) are provided, that no young person is employed for an excessive number of hours, and that the notice required by the Acts is in evidence in the shop. She found no infringement of the provisions of the Acts as regards hours of labour or seats, but she found several shops without the required notices. These, however, were immediately obtained by the proprietors when the obligation was pointed out to them.

One complaint was received, viz. :—that a certain boy was being employed longer than the Act allows, but on investigation the complaint proved to be without foundation.

FOOD AND DRUGS ACTS.

SUMMARY OF ARTICLES ANALYSED UNDER THE FOOD AND DRUGS ACTS, AND NUMBERS ADULTERATED DURING THE YEAR 1906 :—

	Number of Samples		
	Purchased.	Genuine.	Adulterated.
New milk	94	81	13
Skimmed milk	2	1	1
Butter milk	1	0	1
Butter	34	33	1
Cheese	12	12	0
Tea	3	3	0
Cocoa	2	1	1
Coffee	2	2	0
Castor sugar	2	2	0
Flour	3	3	0
Treacle	4	4	0
Condensed milk	2	2	0
Corn Flour	1	1	0
Jam	2	1	1
Arrowroot	1	1	0
Oatmeal	1	1	0
Bread	1	1	0
Sweets	2	2	0
Margarine	1	1	0
Pickles	1	1	0

	Number of Samples		
	Purchased.	Genuine.	Adulterated.
Bottled cherries	1	1	0
Pepper	1	1	0
Cayenne pepper	1	1	0
Pea flour	1	1	0
Lard	2	2	0
Cod liver oil	2	2	0
Cotton seed oil	1	1	0
Olive oil	1	1	0
Mustard	1	1	0
Tinned fruit	1	0	1
Vinegar	1	1	0
Ground ginger	1	1	0
Honey	1	1	0
Ground nutmeg	1	1	0
Ice cream	2	2	0
Potted shrimps	1	0	1
Potted bloater	1	0	1
Corned beef	4	1	3
Potted ham	1	0	1
Potted tongue	1	0	1
Tongue	1	0	1
Baking powder	1	1	0
Lemonade	1	1	0
Beer	1	1	0
Rum	1	1	0
Whiskey	1	1	0
Gin	1	0	1
Soap liniment	1	1	0
Liquor ferri perchloridi	1	1	0
Ipecacuanha wine	1	1	0
Compound rhubarb powder	1	1	0
Compound rhubarb pills	2	2	0
Camphorated oil	1	1	0
Ung. Hydrarg	1	1	0
Boracic ointment	1	1	0
Glycerine	1	1	0
Aromatic spirit of ammonia	1	1	0
Ammoniated tincture of quinine	1	1	0
	216	188	28

Percentage of adulteration 12.9.

The percentage of adulteration in 1903 was 10.1, and in 1904 15.4, and in 1905 10.7, so that 1906 appears to be an intermediate year, not so bad as 1904, not so good as 1903 and 1905.

LIST SHOWING EXTENT OF ADULTERATION IN ADULTERATED ARTICLES :—

NO. OF SAMPLES ADULTERATED.	EXTENT OF ADULTERATION.	REMARKS.
Milk :—		
1	2% of added water	Vendor warned.
1	4% of added water	
1	8% of added water	
2	4% of abstracted fat	Vendor warned in one case.
1	8% of abstracted fat	Vendor warned.
1	9% of abstracted fat	
1	12% of abstracted fat	
2	13% of abstracted fat	
1 (butter milk)	35% of added water.	
Cocoa :—		
1	Foreign starch 25%	Epps' cocoa taken by mistake.
Tinned Fruit :—		
1	Tin ¾ grain per lb. Zinc ½ grain per lb.	Vendor informed.
Potted Ham :—		
1	Tin and zinc traces	No action taken.
Potted Tongue :—		
1	Tin 0.77 grain per lb. Zinc a trace.	No action taken.
Tongue :—		
1	Tin a slight trace	No action taken.
Corned Beef :—		
3	Tin slight traces	No action taken.
Gin :—		
1	1% of added water.	Vendor warned.

Action was taken in all the cases not remarked on in the above list.

The Chicago meat scandals were the feature of the year in this department. The six samples of corned beef, tongue, potted tongue, and potted ham were all American. Seven tins were purchased, and only one was returned as entirely satisfactory, but it will be observed that only traces of tin were found in the others, apparently from the cans in which they were packed, and that the analyst found nothing deleterious. Apparently Northampton escaped injury from the sins of omission and commission of the Chicago packers.

LIST OF CASES UNDER THE FOOD AND DRUGS ACTS IN WHICH PROCEEDINGS WERE TAKEN FOR ADULTERATION :—

SAMPLE.	RESULT OF ANALYSIS.	NO. OF SAMPLE.	RESULT OF PROSECUTION.
New Milk ..	Milk fat abstracted 4%	99	Fined £2, inclusive of costs (2nd conviction).
,, ,, ..	Milk fat abstracted 9%	104	Fined £3 inclusive.
,, ,, ..	Added water 4% ..	125	Fined £1 inclusive.
,, ,, ..	Abstracted fat 13% ..	145	Case dismissed on payment of 5/- towards costs.
,, ,, ..	Added water 8% ..	174	Fined £1 inclusive.
Butter milk	Added water 35% and boric acid 2¼ grains per pint	185	Fined £15 and £3 14s. costs (3rd conviction).
New milk ..	Abstracted fat 12% ..	197	Fined £1 inclusive.
,, ,, ..	Abstracted fat 13% ..	215	Dismissed on payment of 11/- costs.

The proceedings in case 215 were taken in 1907.

The most striking case was that numbered 185, for the magistrates evidently took the view pressed on them by the prosecution that the term butter milk was used merely to evade the law, and that a very dilute skim milk was really being sold.

Food Preservatives.—These were found in nine cases :—

New Milk.. ..	7 grains per pint	Boric acid.
,, ,, ...	10¼ grains per pint	Boric acid.
,, ,, ...	10¾ grains per pint	Boric acid.
Skimmed Milk ..	2¼ grains per pint	Boric acid.
Butter Milk ..	2¼ grains per pint	Boric acid.
Butter	21 grains per lb.	Boric acid.
Potted Bloater ..	2 grains per lb.	Boric acid.
Potted Shrimps ..	73 grains per lb.	Boric acid.
Jam	0.6 grain per lb.	Salicylic acid.

The Inter-departmental Committee on preservatives and colouring matters in food, recommended among other things, that the use of any preservative or colouring matter whatever in milk offered for sale in the United Kingdom, be constituted an offence under the Sale of Food and Drugs Acts; that the only preservative permitted to be used in butter and margarine be boric acid, or mixtures of boric acid and borax, to be used in proportions not exceeding 0.5 per cent. expressed as boric acid (35 grains per 1-lb.), and that salicylic acid be not used in a greater proportion than 1 grain per pound in solid food.

The above cases were reported to the Sanitary Committee, but the Committee, in view of the failure of a prosecution in 1904, where 7 grains of boric acid per pint were found in a sample of milk, decided to merely to warn the vendors of the risks of prosecution. In one case the question of prosecution was raised more urgently, and the Committee would probably have tried again to obtain a conviction, but, unfortunately, the third sample, which is retained by the inspector and produced in court if required, had meantime burst owing to the development of gas in the milk during the time it was kept. This development of gas appears to occur specially in those samples of milk which contain boric acid, and indicates that not merely does the addition of boric acid delay the decomposition of the milk, but that it also causes it to take on an unusual form.

On July 11th, 1906, the Local Government Board issued a circular on the subject of preservatives in milk, in which they express general approval of the conclusions of the Inter-departmental Committee. They say :—" The Board are of opinion that action under the Sale of Food and Drugs Acts in regard to preservatives in milk is desirable, and that this subject deserves attention from all authorities in England and Wales charged with the execution of these Acts." The Board also provide for those cases where the vendor declares to the purchaser by means of a notice label or otherwise that he does not sell " milk " as such, or that its quality in regard to preservatives or other constituents is not guaranteed, or that it contains some added preservative. In these cases where boron preservatives are present they consider that a presumption is raised that the article has been rendered injurious to health where these preservatives are present in milk to an amount exceeding 57 parts of boric acid per 100,000, or 40 grains of boric acid per gallon (5 grains per pint).

BAKEHOUSES.—The sanitary condition of the bakehouses of the Borough was dealt with fully in the report for 1903, by Mr. White. There are now 89 bakehouses known to this department ; these have been regularly inspected.

OFFENSIVE TRADES.—There are only five premises where trades are carried on which might come under this category, and little complaint has been made about any of them. These premises have been inspected.

SLAUGHTER HOUSES.—There are 63 of these on the register; all have been regularly inspected.

NEW BUILDINGS.—The Borough Surveyor has kindly supplied me with the following information:—

Plans were deposited during 1906 for:—

New houses	114
Factories and workshops	8
Stables	5
Alteration to existing premises ..	26
Additions to premises	44
Sheds	1
Temporary building	1
Public buildings	4
Making up back roads	1
TOTAL	204

FOOD INSPECTION.—The following articles ascertained to be unfit for food were voluntarily surrendered to the officials of the Health Department, and destroyed:—

	cwt.	qrs.	lbs.
Haddock	1	1	0
Herrings	1	2	0
Cod fish	0	2	0
Oysters	2	0	0
Strawberries	2	2	10
Tomatoes	1	0	0

In addition two seizures of meat were made during the year, but neither resulted in police court proceedings because the flesh was not actually exposed for sale at the time of the seizure: the Town Clerk has ruled that this is a necessary condition before a conviction can be obtained.

Mr. White, who made both seizures, states:—"In the first instance I found on entering a slaughter house in Bailiff Street, the carcase of a cow, the flesh of which was obviously diseased, the appearances being consistent with parturient fever." He seized the carcase, brought it before the magistrate, who condemned it and ordered it to be destroyed. The carcase weighed 3-cwt. 3-qrs. 0-lbs.

The second seizure was of great interest, as a living animal was seized. Mr. White states:—"On investigating a complaint of the keeping of swine on certain premises in Adnitt Road, I saw in a stable a sow; the animal was emaciated, and apparently in an advanced state of disease. I learned that the animal had been offered for sale to various butchers, and that the purchaser was to fetch it away in the evening. I sought the advice of the Town Clerk, and the opinion of the Medical Officer of Health. The latter agreed with me, after inspecting the animal, that there was every indication of disease, sufficient to justify the seizure. Some difficulty was met with, as the owner opposed the demand for slaughter on the ground that the animal was suffering from nothing worse than a common ailment. The slaughtering of the animal, however, took place in the presence of myself and its owner, and as I anticipated, the carcase was found to be badly diseased, the lungs being both pneumonic and tuberculous. The whole of the carcase and the internal organs were consigned to the refuse destructor." The weight of the slaughtered animal was 1-cwt. 2-qrs. 0-lbs.

It appears to me a great misfortune that the definition of "exposure for sale," or "deposit for the purpose for sale," has become so narrow. It is difficult to see for what other purpose in the first case the butcher had the carcase in his slaughter house.

PROSECUTIONS.—Legal proceedings other than cases under the Food and Drugs Acts were taken in the following:—

A man was fined 4/- costs for keeping swine in a manner which was not in accordance with the byelaws.

Closing orders were applied for in the case of the following insanitary houses:—

Foundry Street, court 2, Nos. 1 and 2.
Johnson's Buildings, Nos. 7, 8 and 9.
St. George's Square, No. 24.
Freeschool Street, No. 28.

In each case the orders were made and the costs of the proceedings imposed upon the owners.

DRAIN TESTING.—In the following houses the smoke test was appiled to test the efficiency of the drainage system :—

Denmark Road, No. 49.
Lawrence Street, Factory.
Colwyn Road, Nos. 11, 45, 19,
Victoria Street, No. 11.
Guildhall Road, No. 11.
Loyd Road, No. 155.
Edith Street, No. 51.
Derngate, No. 32.
Sheep Street, No. 11.
Ethel Street, Nos. 66, 68, 65.
Melbourne Street, No. 20.
Abington, Nos. 1, 2, 3, 4.
Vernon Street, No. 8.
Wellingborough Road, Nos. 182, 184, 254, 30.
Bouverie Street, No. 3.
Thenford Street, No. 14.
Billing Road, No. 73.
York Road, No. 41.
Hazelwood Road, No. 36, 22, 24.
Ecton Street, No. 10.
Gurney Terrace, No. 14.
West Street, Nos. 35, 37, 39.
New Town Road, No. 8.
East Street, No. 22.
Castilian Street (Dr. Barnardo's) and No. 12.
Victoria Promenade, No. 23.
Abington Street, No. 90.
St. Giles' Street, No. 43.
St. Andrew's Gardens, Nos. 3 to 17.
Regent Street, Nos. 8 and 10.
Nene Cottage, Cattle Market Road.
Augustine Street, Nos. 11, 13, 15, 17 and 19.
Lower Harding Street, Nos. 17 to 43.
Adnitt Road, No. 63.
Arthur Street, Nos. 35 and 37.
Cecil Road, No. 113.
Queen's Park Parade, Cawsby Close.
Deal Street, Nos. 25, 27, 29 and 31.
East Park Parade, Nos. 11 and 12.
Exeter Road, Nos. 19 and 6.
Holly Road, No. 41.
Harborough Road, Nos. 6, 8.
Market Street, Nos. 43, 36,
Oliver Street, Nos. 1, 2.
Shelley Street, Nos. 68, 70, 72, 74.
Roe Road, No. 21.
Talbot Road, Nos. 57, 81, 83.
Whitworth Road, Nos. 12, 14.
Ash Street, No. 11.
Bailiff Street, Nos. 52, 104.
Craven Street, No. 13.
Duke Street, Nos. 27, 31, 33, 35.
Elysium Terrace, No. 7.
Gray Street, No. 34.
Lower Hester Street, No. 9.
Norfolk Street, No. 51.
St. Michael's Road, Nos. 21, 23.
Talbot Road, Nos. 17. 19.
Harborough Road, No. 8.
Colwyn Road, Nos. 11, 19, 97, 127, 131, 149, 151, 153.
Charles Street, Nos. 61, 63, 65.
Campbell Street, Nos. 30. 32.
Duke Street, Nos. 15, 17, 19, 21, 27, 29, 31, 33, 35, 40, 42, 44, 46.
Earl Street, Nos. 88, 100, 102, 104, 106.
Hope's Place, No. 5.

Holyrood Road (2 houses).
College Street (1 house).
St. James' Road, No. 125.
Lady's Lane, No. 39.
Newland, Nos. 68 and 70.
Arthur Terrace, Nos. 3, 4, 5 and 6.
Leicester Street, Nos. 6, 8, 10.
Upper Mounts, Nos. 22, 24, 26, 28.
Nelson Street, No. 1.
Pine Street, Nos. 6, 8, 10, 12.
Great Russell Street, Nos. 46, 48.

RECONSTRUCTION OF DRAINS.—Defects were found in the drainage systems of the following houses; these were rectified by reconstruction of the drains, under the supervision, as a rule, of the Health Department.

Abington Street, Nos. 82, 102.
Denmark Road, Nos. 49, 51, 53.
Lawrence Street, Factory.
Cliftonville Avenue (Mr. Walker).
,, ,, (Mr. Sear).
Victoria Street, No. 11.
Castilian Street, No. 12.
Guildhall Road, No. 15.
Abington Avenue, No. 26.
Cleveland Road, Nos. 39, 41, 43, 45, 26, 28.
St. George's Place, No. 17.
Derngate, No. 32a.
Alexandra Road, No. 49.
Ethel Street, Nos. 68, 70.
Waterloo, Nos. 68, 74.
West Street, Nos. 35, 37, 39, 54, 56, 58.
Billing Road, Nos. 11, 74, 75, 76.
Thenford Street, No. 3.
Wellingborough Road, Nos. 30, 66, 182, 184, 5.
Hazelwood Road, No. 26.
Upper Harding Street, Nos. 5, 7, 9, 11, 13, 15, 17, 19, 21, 23, 25.
Gurney Terrace, No. 14.
Bouverie Street, Nos. 50, 52, 54, 56.
St. Edmund's Street, Nos. 36, 38.
New Town Road, Nos. 50, 52.
Bridge Street, Nos. 68, 70, 169, 171.
Abington Street, No. 90.
Bruce Street, No. 53.
Gas Company's Office.
St. Andrew's Gardens, Nos. 1 to 17.
College Street, Nos. 12, 13, 9.
Bath Street, Nos. 91, 93, 95.
St. Peter's Street, Nos. 1, 2, 3, 4, 5.
The Avenue, "Edenhurst."
Woolmonger Street, Nos. 44, 46.
Kingswell Street, Nos. 61, 63.
Spencer Parade, No. 6.
Weedon Road, Nos. 1, 2.
Cattle Market Road, Nene Cottage.
The Drapery, No. 28.
Regent Street, Nos. 8, 10.
Newland, Nos. 68, 70, 79.
Freeschool Street, Nos. 12, 14, 16.
Hazelwood Road, No. 22.
Weston Street, Nos. 14, 16, 18.
Augustine Street, Nos. 11 to 23.
Bradshaw Street, No. 19.
St. John's Terrace, Nos. 12, 14, 16, 18.
Broad Street, Nos. 45, 47, 49.
Fish Street, No. 1.
"The Eagle" Inn, Far Cotton.
Adams Avenue, Nos. 64, 66.
Arthur Terrace, Nos. 3, 4, 5, 6.

Gold Street, No. 56.
Horsemarket, Nos. 2, 4.
Pytchley Street, Nos. 14, 16.
York Road, No. 35.
Sandhill Road, Nos. 42, 43, 44, 45.
Victoria Promenade, No. 23.
Brunswick Place, No. 8.
Deal Street, Nos. 25, 27.
East Park Parade, No. 11.
Exeter Road, Nos. 19, 27, 29.
Portland Street, No. 49.

HOUSE TO HOUSE INSPECTION.—In pursuance of the statutory duty to seek for nuisances, the inspectors visited the houses in the streets and passages here mentioned. Measures were taken to remedy any defect found.

	HOUSES.
Ethel Street	90
Edith Street	72
Ecton Street	14
Marble Arch, Wellington Place	6
St. George's Square	28
Scarletwell Street, 3 court	6
Johnson's Row, Grafton Square	9
Bath Street, portion of	32
Windsor Terrace	9
Spencer Terrace	5
Bath Row	10
Mount Gardens	15
Castle Street (portion of)	51
Spring Gardens	16
Weston Place	17
Althorpe Street	37
Herbert Street	40
St. Andrew's Gardens	17
Cooper Street	24
Regent Street	45
Union Court	4
Johnson's Buildings	8
Old Towcester Road	26
Cromwell Street	21
Fitzroy Terrace	8
Bridge Street, court 7	12
Russell Terrace	16
St. John's Terrace	13
Inkerman Terrace	20
Arthur Street	42
Brunswick Place	7
Cartwright Road	11
Cleveland Road	47
Exeter Road	37
Knightley Road	8
Portland Street	34
Talbot Road	45
Arundel Street	17
Clark's Yard	5
Cloutsham Street	15
Deal Street	36
Francis Street	45
Lower Grafton Street	16
Upper Harding Street	37
Harding Terrace	25
Lawrence Street	9
St. Liz Street	19
Paradise Row	8
Priory Terrace	9
Lower Priory Street	32
Upper Priory Street	21
Priory Square	6

Bridge Street, Tom Thumb's Yard	10
Foundry Street, court 1 ..	4
St. Mary's Street and courts ..	53
Mill Road	16
Great Russell Street ..	107
Semilong Road	3
Watkin Place	4
	1399

MILK SUPPLY.—There are 169 milkshops and 40 cowsheds on the register. New purveyors of milk are constantly taking up the business, and older ones dropping it, so that the number of milkshops is a fluctuating one.

Constant efforts are being made to improve the standard of the cowsheds, especially when an application is made to register a new cowshed, or an old cowshed changes hands. The following may be taken as a specimen of the changes which are considered desirable :—

1. The Floor.—This is to be relaid, and to be made either of blue bricks set in cement, with the joints thoroughly grouted with cement, or of six inches of good cement concrete, the top being roughened or grooved to prevent the cows slipping. The floor should slope gradually from the feeding troughs for a distance great enough for the cows to stand ; it should then drop about three inches, and the slope be continued to the channel, which should be two inches below this level and nine inches wide.
2. Drainage.—The channel should lead to a gully outside the building.
3. Walls.—The walls are to be lined throughout with a skimming of cement one inch thick to a height of four feet from the ground, this being brought to a smooth surface ; above they should be pointed where necessary, and limewashed.
4. Lighting.—This should be such that on an ordinary day every part of the cowshed is visible when the doors are closed. Where there are windows these should be so constructed that the top half can fall inwards.
5. Ventilation.—This will be partly secured by the windows whose upper halves are made to open. Outlets should be made for the foul air, either by a louvred ventilator in the roof, or by inserting a sufficiency of air bricks in the back and side walls.
6. Partitions.—Partitions should be erected to separate the cows from each other five feet in height. The width between the partitions should be about four feet.

7. Feeding Troughs.—These should not be constructed of wood, but of glazed earthenware, or else of cement, or of glazed half-pipes set in cement, or in some other way which will allow of easy cleansing.
8. Water Supply.—Town water is to be laid on to the cowshed.
9. To allow of Regulation 17 (5) (b) of the Regulations for Dairies, Cowsheds and Milkshops to be complied with, a basin, soap, and towel must be provided for the use of the milkers.
10. A manure pit should be constructed at some distance from the cowshed. Its walls should be about three feet in height, their inner surfaces being covered with a skimming of cement. The floor is to be made of cement concrete or other impervious material ; the pit to drain to a gully.

On the whole not much difficulty is experienced in getting the major portion of these requirements carried out.

THE DISINFECTING STATION.—The number of articles disinfected during each month of the year 1906 was :—

January	499
February	707
March	575
April	544
May	538
June	316
July	334
August	310
September	299
October	391
November	333
December	374
	5220

COMMON LODGING HOUSES.—The Inspector (Mr. Barker) reports :—
" During the year the regular weekly visits were made to these houses for the purposes of inspection and of collection of the weekly returns ; other visits were also made to examine suggested alterations, or to ascertain whether the instructions given had been complied with."

" The houses were whitewashed at the regular times, and one house has been thoroughly renovated throughout."

" One house, the Malt Shovel, Bridge Street, has ceased to be a common lodging house, as the licensing justices refused to renew the beer house license unless the lodgers were given up."

" One midnight visit was made during the year to check the keepers' returns ; these were found to be satisfactory, and no complaint could be made as to accommodation, although the visits were made on a " fair " night."

" Two lodgers were reported ill during the year ; one was certified to be insane and was removed to Berry Wood Asylum, the other was found to be suffering from pneumonia ; he was removed to the Workhouse, where he afterwards died."

" The following is a statement giving particulars of the lodgers during the past year, compared with those of 1905 :—

	CASUAL LODGERS.		REGULAR LODGERS.	
	MALES.	FEMALES.	MALES.	FEMALES.
1905 ..	13501	2857	3220	471
1906 ..	13777	2718	3402	305
	276 Increase.	139 Decrease.	182 Increase.	156 Decrease.

" There was, therefore, an increase in both classes of male lodgers, and a decrease in both classes of female lodgers."

CANAL BOATS.—The Inspector (Mr. Harper) reports :—" During the year 77 inspections were made under the Canal Boats Acts, and infringements of the regulations were discovered in three instances, viz. :—

Want of cleanliness	1
Certificate not produced	2

" Letters of warning were written to the owners of these boats drawing their attention to the matter."

" The annual visit of H.M. Inspector of Canal Boats was made in November, when he inspected and signed the books."

SUMMARY OF ROUTINE WORK CARRIED OUT BY THE HEALTH DEPARTMENT DURING THE YEAR 1906.

Total number of inspections and visits	10441
Nuisances reported by the sanitary inspectors	3353
Nuisances reported by residents	85
Nuisances abated	3264
Unabated cases in arrears	89
Statutory notices served	1330
Inspection of houses after complaint of nuisance	143
Visits to houses in which infectious illness existed	1071
Houses disinfected	356
Drains tested with the volatile test	81
Drains tested with the asphyxiator	128
Drains found defective after testing	103
Drains tested with water	202
Drains reported choked, and subsequently disinfected and amended	192
Drains reconstructed	206
Drains repaired, and gullies substituted for bell-traps	451
Bath, lavatory, sink, waste-pipes disconnected from drains and altered so as to discharge over gully-traps	30
New pans fixed to closets	62
Indoor soil-pipes abolished and new ones fixed outside	17
Closets supplied with flushing apparatus	30
Accumulations of manure and offensive refuse removed	87
Animals that were kept so as to be a nuisance removed	27
Animals kept in contravention of the bye-laws removed or conditions altered	46
Houses cleansed and whitewashed	660
Dilapidated houses repaired	317
Houses unfit for habitation	47
Overcrowding in houses abated	11
Yard pavings relaid and repaired	294
Spoutings repaired and renewed	80
New slop sinks fixed	127
Slaughter-houses, cowsheds, milkshops, inspected and found defective in sanitation	105
Workshops and factories inspected and found defective in sanitation	173
Domestic workshops inspected and found defective in sanitation	132
Inspection of courts and alleys	66
Houses supplied with town water	7
Miscellaneous	297

TABLES

REQUIRED BY THE LOCAL GOVERNMENT BOARD.

TABLE I.

Vital Statistics of Whole District during 1906, and previous years.

COUNTY BOROUGH OF NORTHAMPTON.

Year.	Population estimated to Middle of each Year.	Births.		Total Deaths Registered in the District.				Total Deaths in Public Institutions in the District.	Deaths of Non-residents Registered in Public Institutions in the District.	Deaths of Residents registered in Public Institutions beyond the District.	Nett Deaths at all ages belonging to the District.	
				Under 1 Year of Age.		At all Ages.						
		Number.	Rate.*	Number.	Rate per 1,000 Births registered.	Number.	Rate.*				Number.	Rate.*
1	2	3	4	5	6	7	8	9	10	11	12	13
1896	61087	1799	29.4	271	150.6	1066	17.4	174	87	9	988	16.1
1897	61102	1752	28.6	323	184.3	1103	18.0	150	78	17	1042	17.0
1898	61117	1694	27.7	307	181.2	1074	17.5	179	90	11	995	16.2
1899	61132	1671	27.3	253	151.4	1004	16.4	176	95	12	921	15.0
1900	61147	1546	25.2	224	144.8	1041	17.0	199	101	11	951	15.5
Borough ex	tended											
1901	87021	2345	26.9	334	142.4	1269	14.5	174	62	9	1216	13.9
1902	88206	2272	25.7	301	132.4	1358	15.4	184	75	11	1294	14.7
1903	89960	2194	24.4	301	137.2	1307	14.5	222	88	10	1219	13.5
1904	90340	2102	23.3	279	132.7	1293	14.3	245	108	9	1185	13.1
1905	91230	1937	21.2	239	123.4	1243	13.6	239	84	8	1159	12.7
Averages for years 1896-1905	75234	1931	26.0	283	148.0	1176	15.9	194	87	11	1097	14.8
1906	91640	1985	21.7	240	120.9	1108	12.1	231	77	22	1061	11.6

* Rates in Columns 4, 8, and 13 calculated per 1,000 of estimated population.

Note.—The deaths included in Column 7 of this Table are the whole of those registered during the year as having actually occurred within the district or division. The deaths included in Column 12 are the number in Column 7, corrected by the subtraction of the number in Column 10 and the addition of the number in Column 11.

By the term "Non-residents" is meant persons brought into the district on account of sickness or infirmity, and dying in public institutions there; and by the term "Residents" is meant persons who have been taken out of the district on account of sickness or infirmity, and have died in public institutions elsewhere.

The "Public institutions" taken into account for the purposes of these Tables are those into which persons are habitually received on account of sickness or infirmity, such as hospitals, workhouses and lunatic asylums. A list of the Institutions in respect of the deaths in which corrections have been made is given on the back of this Table.

Area of District in acres (exclusive of area covered by water) . . 3,432

Total population at all ages	87,021	At census of 1901.
Number of inhabited houses	17,602	
Average number of persons per house	4.94	

I. Institutions within the District receiving sick and infirm persons from outside the District.	II. Institutions outside the District receiving sick and infirm persons from the District.	III. Other Institutions, the deaths in which have been distributed among the several Localities in the District.
The Northampton General Hospital. The Northampton Workhouse. St. Andrew's Hospital for the Insane.	The Northampton Borough Hospital for Infectious Diseases. The Northampton Borough Hospital for Smallpox. The Nortuampton Borough Hospital, Welford Road. The Asylum, Berry Wood.	

Is the Union Workhouse within the District ? Yes

TABLE II. **Vital Statistics of separate Localities in 1906, and previous years.**

COUNTY BOROUGH OF NORTHAMPTON.

NAMES OF LOCALITIES.	WHOLE DISTRICT.				ST. MICHAEL WARD.				CASTLE WARD.				ST. CRISPIN WARD.				SOUTH WARD.				NORTH WARD.				KINGSTHORPE WARD.				ST. JAMES WARD.				FAR COTTON WARD.				ST. EDMUND WARD.			
Year.	Population estimated to middle of each year.	Births registered.	Deaths at all ages.	Deaths under 1 year.	Population estimated to middle of each year.	Births registered.	Deaths at all ages.	Deaths under 1 year.	Population estimated to middle of each year.	Births registered.	Deaths at all ages.	Deaths under 1 year.	Population estimated to middle of each year.	Births registered.	Deaths at all ages.	Deaths under 1 year.	Population estimated to middle of each year.	Births registered.	Deaths at all ages.	Deaths under 1 year.	Population estimated to middle of each year.	Births registered.	Deaths at all ages.	Deaths under 1 year.	Population estimated to middle of each year.	Births registered.	Deaths at all ages.	Deaths under 1 year.	Population estimated to middle of each year.	Births registered.	Deaths at all ages.	Deaths under 1 year.	Population estimated to middle of each year.	Births registered.	Deaths at all ages.	Deaths under 1 year.	Population estimated to middle of each year.	Births registered.	Deaths at all ages.	Deaths under 1 year.
	a.	*b.*	*c.*	*d.*	*a.*	*b.*	*c.*	*d.*	*a.*	*b.*	*c.*	*d.*	*a.*	*b.*	*c.*	*d.*	*a.*	*b.*	*c.*	*d.*	*a.*	*b.*	*c.*	*d.*	*a.*	*b.*	*c.*	*d.*	*a.*	*b.*	*c.*	*d.*	*a.*	*b*	*c.*	*d.*	*a.*	*b.*	*c.*	*d.*
1896 ..	61087	1799	988	271																																				
1897 ..	61102	1752	1042	323																																				
1898 ..	61117	1694	995	307																																				
1899 ..	61132	1671	921	253																																				
1900 ..	61147	1546	951	224																																				
Borough extended.																																								
1901 ..	87021	2345	1216	334																									7119		80	35	4086	137	64	24				
1902 ..	88206	2272	1294	301																									7415		93	21	4276	122	60	7				
1903 ..	89960	2194	1219	301	14111		157	31	10645		163	47	11335		146	29	7575		138	31	14136		212	70	9732		127	25	7912		92	28	4544	129	50	17	9970		126	21
1904 ..	90340	2102	1185	279	14052		182	36	10454		165	49	11184		156	24	7517		107	15	14077		195	61	10051		104	29	8110		100	29	4678	140	63	16	10217		113	20
1905 ..	91230	1937	1159	239	14244		181	29	10189		171	36	11171		136	29	7515		113	14	13609		179	45	10395		104	30	8642		97	32	4906	95	48	10	10559		130	17
Averages of Years 1896 to 1905	75234	1931	1097	283	14136		173	32	10429		166	44	11230		146	27	7536		119	20	13941		195	59	10059		112	28	7840		92	29	4498	125	57	15	10249		123	19
1906 ..	91640	1985	1061	240	14347		160	34	10401		145	38	11027		150	31	7278		105	20	13769		171	47	10484		94	19	8830		106	30	4948	118	36	8	10556		94	13

NOTES.—(*a*) The separate localities adopted for this Table are areas of which the populations are obtainable from the census returns. Block 1 is used for the whole District; and blocks 2, 3, &c., for the several localities.

(*b*) Deaths of residents occurring in public institutions beyond the district are included in sub-columns *c* of this Table, and those of non-residents registered in public institutions in the district excluded. (See note on Table I. as to meaning of terms ' resident" and "non-resident. ')

(*c*) Deaths of residents occurring in public institutions, whether within or without the district, are allotted to the respective localities according to the addresses of the deceased.

(*d*) Care has been taken that the gross totals of the several columns in this Table respectively equal the corresponding totals for the whole districts in Tables I. and IV. thus, the totals of sub-columns *a*, *b*, and *c* agree with the figures for the year in the columns 2, 3, and 12, respectively, of Table I.: the gross total of the sub-columns *c* agrees with the total of column 2 in Table IV., and the gross total of sub-columns *d* with the total of column 3 in Table IV.

TABLE III. **Cases of Infectious Disease notified during the year 1906.**

COUNTY BOROUGH OF NORTHAMPTON.

NOTIFIABLE DISEASE.	CASES NOTIFIED IN WHOLE DISTRICT.							TOTAL CASES NOTIFIED IN EACH LOCALITY. (WARDS).									NUMBER OF CASES REMOVED TO HOSPITAL FROM EACH LOCALITY.								
	At all Ages.	At Age—Years						1	2	3	4	5	6	7	8	9	1	2	3	4	5	6	7	8	9
		Under 1.	1 to 5.	5 to 15.	15 to 25.	25 to 65.	65 and upwards.	St. Michael.	Castle.	St. Crispin.	South.	North.	Kings-thorpe.	St. James.	Far Cotton.	St. Edmund	St. Michael.	Castle.	St. Crispin.	South.	North.	Kings-thorpe.	St. James.	Far Cotton.	St. Edmund.
Small-pox	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Cholera	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Diphtheria	25	..	6	14	3	2	..	2	..	..	5	5	..	7	3	3	..	..	1	..	1	..	1	1	..
Membranous croup ..	3	1	1	1	..	..	..	..	..	..	1	1	1	..	..	..	..	..	..	..	..	..	..	..	..
Erysipelas	71	3	4	5	7	40	12	11	4	11	7	9	13	9	3	4	..	..	..	..	..	..	..	..	..
Scarlet fever	276	..	59	182	24	10	1	61	9	19	25	18	42	39	17	46	44	7	15	23	13	34	28	9	35
Typhus fever	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Enteric fever	34	..	2	7	8	17	..	5	1	7	6	5	1	4	2	3	5	1	2	2	2	..	4	1	3
Relapsing fever ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Continued fever ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Puerperal fever ..	2	..	..	..	1	1	..	1	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..
Plague	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
TOTALS	411	4	72	209	43	70	13	80	14	37	44	38	57	60	25	56	49	8	18	25	16	34	33	11	38

NOTES.—The localities adopted for this Table are the same as those in Tables II. and IV.
State in space below the name of the isolation hospital, if any, to which residents in the district, suffering from infectious disease, are usually sent. Mark (H) the locality in which it is situated, or if not within the district, state where it is situated, and in what district. The name of the authority by whom the hospital is provided should also be given. Mark (W) the locality in which a workhouse is situated.

(H). Isolation Hospitals—The Borough Hospitals, (1) Harboro' Road, (2) Welford Road, (3) near Hardingstone (smallpox).

(W). Workhouse—St. Michael Ward.

Brixworth Rural District.

TABLE

COUNTY BOROUGH

Causes of, and Ages at,

Causes of Death.	Deaths at the subjoined ages of "Residents" whether occurring in or beyond the District.						
	All Ages.	Under 1 year.	1 and under 5	5 and under 15	15 and under 25	25 and under 65	65 and up-wards
1	2	3	4	5	6	7	8
Small-pox	..	..	..	..	..	..	..
Measles	..	..	..	..	..	..	..
Scarlet Fever	5	..	1	4	..	..	..
Whooping Cough	8	3	5	..	..	..	..
Diphtheria and Membranous Croup	7	..	1	6	..	..	..
Croup	1	..	1	..	..	..	..
Fever — Typhus	..	..	..	..	..	..	..
Fever — Enteric	10	..	..	1	3	6	..
Fever — Other continued	..	..	..	..	..	..	..
Epidemic influenza	11	1	..	..	2	3	5
Cholera	..	..	..	..	..	..	..
Plague	..	..	..	..	..	..	..
Diarrhœa (*See* notes at back)	83	67	10	..	..	2	4
Enteritis (*See* notes at back)	12	..	6	2	..	1	3
Puerperal fever (*See* notes at back)	2	..	..	..	1	1	..
Erysipelas	2	1	..	..	..	..	1
Other Septic Diseases	1	..	..	..	1	..	..
Phthisis (Pulmonary Tuberculosis)	80	1	1	4	20	53	1
Other Tubercular Diseases	31	5	8	8	3	7	..
Cancer, malignant disease (*See* notes)	80	..	..	..	1	52	27
Bronchitis	93	10	4	2	..	22	55
Pneumonia	48	6	8	3	5	19	7
Pleurisy	3	..	..	..	..	1	2
Other diseases of Respiratory Organs	2	..	..	..	..	1	1
Alcoholism Cirrhosis of liver	12	..	..	..	..	8	4
Venereal Diseases	..	..	..	..	..	..	..
Premature Birth	31	31	..	..	..	..	..
Diseases and Accidents of Parturition	2	..	..	..	2	..	..
Heart Diseases	101	1	2	4	6	46	42
Accidents	30	8	3	2	5	9	3
Suicides	10	..	..	..	..	9	1
Brain and Nervous System	31	..	1	2	3	17	8
Apoplexy and Hemiplegia	53	..	..	..	..	22	31
Meningitis	17	6	8	2	1	..	..
Kidney and Urinary System	30	..	1	2	..	12	15
Diabetes	8	..	..	..	..	5	3
Senile Decay	81	..	..	..	..	..	81
Marasmus	32	30	..	..	..	..	2
Convulsions	25	21	4	..	..	..	..
All other causes	119	49	8	5	3	32	22
All Causes	1061	240	72	47	56	328	318

(See Notes

IV.

OF NORTHAMPTON.

Death during Year 1906.

Deaths at all ages of "Residents" belonging to Localities, whether occurring in or beyond the District.									Total Deaths whether of Residents or Non-Residnt. in Public Institutions in the District.
St. Michael. 9	Castle. 10	St. Crispin. 11	South. 12	North. 13	Kingsthorpe. 14	St. James. 15	Far Cotton. 16	St. Edmund. 17	18
..	..	..	..	..	..	..	..	..	..
..	..	..	..	..	..	..	..	..	..
3	..	..	..	..	..	..	..	2	..
2	2	1	..	1	..	..	2	..	..
..	..	..	3	..	..	2	..	2	3
1	..	..	..	..	..	..	..	..	..
..	..	..	..	..	..	..	..	..	..
1	1	6	..	1	..	..	..	1	3
..	..	..	..	..	..	..	..	..	..
2	1	3	1	..	..	1	1	2	2
..	..	..	..	..	..	..	..	..	..
..	..	..	..	..	..	..	..	..	..
9	13	10	5	22	3	14	4	3	4
1	2	1	2	1	..	4	..	1	..
1	..	..	..	..	..	1	..	..	..
..	..	..	1	1	..	..	..	..	..
..	..	..	..	1	..	..	..	..	6
12	13	14	6	16	5	8	..	6	9
2	2	5	5	4	1	5	2	5	11
15	12	16	6	6	8	7	4	6	25
16	14	12	11	13	7	6	2	12	10
3	11	3	9	6	5	5	3	3	9
1	..	..	..	1	1	..	..	..	..
..	..	..	1	..	..	..	1	..	..
..	5	1	1	1	1	1	..	2	1
..	..	..	..	..	..	..	..	..	..
7	1	4	1	4	6	6	1	1	3
..	1	..	..	1	..	..	..	..	..
16	10	11	8	13	18	9	4	12	18
2	4	2	7	5	2	3	..	5	10
1	1	2	1	4	..	1	..	..	2
7	5	8	1	3	3	1	1	2	24
8	6	10	6	12	6	3	..	2	11
3	..	3	2	1	3	1	2	2	2
8	2	4	4	3	3	4	1	1	10
1	1	..	1	1	..	1	1	2	5
14	10	14	2	19	10	2	1	9	25
1	8	5	3	9	2	1	2	1	..
4	7	3	2	4	2	1	1	1	2
19	13	12	16	18	8	19	3	11	36
160	145	150	105	171	94	106	36	94	231

at Back).

TABLE

COUNTY BOROUGH

INFANTILE MORTALITY

Deaths from stated Causes in Weeks

CAUSE OF DEATH.		Under 1 week.	1-2 weeks.	2-3 weeks.	3-4 weeks.	TOTAL UNDER 1 MONTH.
ALL CAUSES	Certified	37	8	9	6	60
	Uncertified	5	1	..	..	6
I. COMMON INFECTIOUS DISEASES.	Small-pox	..	..	..	..	..
	Chicken-pox	..	..	..	..	..
	Measles	..	..	..	..	..
	Scarlet Fever	..	..	..	..	..
	Diphtheria : Croup	..	..	..	..	..
	Whooping Cough	..	..	..	..	..
II. DIARRHŒAL DISEASES. (See Notes to Table IV.)	Diarrhœa, all forms	..	1	1	..	2
	Enteritis, Muco-enteritis Gastro-enteritis	..	..	..	..	..
	Gastritis, Gastro-intestinal Catarrh	..	..	..	..	..
III. WASTING DISEASES.	Premature Birth	20	4	5	1	30
	Congenital Defects	4	..	..	..	4
	Injury at Birth *	..	..	..	..	..
	Want of Breast-milk, Starvation	..	..	..	..	..
	Atrophy, Debility, Marasmus	3	..	1	4	8
IV. TUBERCULOUS DISEASES.	Tuberculous Meningitis*	..	..	..	..	..
	Tuberculous Peritonitis : Tabes Mesenterica	..	..	..	..	..
	Other Tuberculous Diseases*	..	..	..	..	..
V. OTHER CAUSES.	Erysipelas	..	..	..	..	..
	Syphilis	..	..	..	..	..
	Rickets	..	..	..	..	..
	Meningitis (*not tuberculous*)	..	..	..	..	..
	Convulsions	4	..	1	..	5
	Bronchitis	..	..	..	..	..
	Laryngitis	..	..	..	..	..
	Pneumonia	..	..	..	..	..
	Suffocation, over-lying	..	..	..	..	..
	Other causes	11	4	1	1	17
		42	9	9	6	66

* See Notes to Table IV.

V.

OF NORTHAMPTON.

DURING THE YEAR 1906.

and Months under One Year of Age.

1-2 months.	2-3 months.	3-4 months.	4-5 months.	5-6 months.	6-7 months.	7-8 months.	8-9 months.	9-10 months.	10-11 months.	11-12 months.	TOTAL DEATHS UNDER 1 YEAR.
22	21	21	22	19	12	17	11	8	5	10	228
2	..	1	1	1	..	..	..	..	..	1	12
..	..	..	..	..	..	..	..	..	..	..	..
..	..	..	..	..	..	..	..	..	..	..	..
..	..	..	..	..	..	..	..	..	..	..	..
..	..	..	..	..	..	..	..	..	..	..	..
..	..	..	..	..	..	..	..	..	..	..	..
..	..	..	..	1	..	..	..	..	..	2	3
2	2	9	5	5	3	5	1	1	..	3	38
..	1	2	1	..	1	1	1	1	..	..	8
..	4	3	3	2	1	3	1	3	1	..	21
..	1	..	..	..	..	..	..	..	..	..	31
..	..	..	..	..	..	..	2	..	..	..	6
..	..	..	..	..	..	..	..	..	..	..	..
2	1	..	2	..	..	..	..	..	..	..	5
6	7	3	4	5	2	3	3	1	..	1	43
..	..	..	..	..	1	1	..	..	..	..	2
..	..	..	..	..	..	..	..	..	..	..	..
1	..	1	..	..	..	..	..	..	1	1	4
..	..	..	..	1	..	..	..	..	..	..	1
..	..	..	..	..	..	..	..	..	..	..	..
..	..	..	1	1	..	1	..	..	..	..	3
1	..	..	3	..	..	..	2	..	..	..	6
2	1	1	1	1	2	1	1	..	1	3	19
1	1	..	..	2	2	1	..	1	2	..	10
..	..	..	..	..	..	..	..	..	..	..	..
3	..	..	1	..	..	1	..	1	..	..	6
..	..	..	..	..	..	..	..	..	..	..	..
6	4	2	2	2	..	..	..	..	..	1	34
24	21	22	23	20	12	17	11	8	5	11	240

District (or sub-division) of County Borough of Northampton.

Births in the year { legitimate—1922. illegitimate—63. }

Deaths from all Causes at all Ages—1061.

Population, estimated to middle of 1906—91,640.

Deaths in the year of { legitimate Infants illegitimate Infants } No information available.

NOTES TO TABLES IV. and V.

(*a*). In Table IV., all deaths of "Residents" occurring in public institutions, whether within or without the district, are *included* with the other deaths in the columns for the several age groups (columns 2-8). They are also in columns 9-15, to be *included* among the deaths in their respective "Localities" according to the previous addresses of the deceased as given by the Registrars. "Deaths of Non-Residents" occurring in public institutions in the district are in like manner to be *excluded* from columns 2-8 and 9-15 of Table IV.

(*b*). *See* notes on Table I. as to the meaning of "Residents" and "Non-residents," and as to the "Public Institutions" to be taken into account for the purposes of these Tables. The "Localities" in Table IV. should be the same as those on Tables II. and III.

(*c*). All deaths occurring in public institutions situated within the district, whether of "Residents" or of "Non-residents," are, in addition to being dealt with as in note (*a*), to be entered in the last column of Table IV. The total number in this column should equal the figures for the year in column 9, Table 1.

(*d*). The total deaths in the several "Localities" in columns 9-15 of Table IV. should equal those for the year in the same localities in Table II., sub-columns *c*. The total deaths at all ages in column 2 of Table IV. should equal the gross total of columns 9-15, and the figures for the year in column 12 of Table 1.

(*e*). Under the heading of "Diarrhœa" are to be included deaths registered as due to Epidemic diarrhœa, Epidemic enteritis, Infective enteritis, Zymotic enteritis, Summer diarrhœa, Dysentery and Dysenteric diarrhœa, Choleraic diarrhœa, Cholera and Cholera Nostras.

In addition, and as regards deaths of children *under one year of age*, under the heading "Diarrhœa" in column 3 (Table IV.) are to be included all deaths classified as "Diarrhœal diseases" in Table V.

Under the heading of "Enteritis" in Table IV., are to be included only deaths *over one year of age* registered as due to Enteritis, Muco-enteritis, Gastro-enteritis, Gastric catarrh, Gastritis, and Gastro-intestinal catarrh, unless from information obtained by enquiry from the certifying practitioner or otherwise, the Medical Officer of Health should have reason for including such deaths, under the specific term "Diarrhœa." Deaths from diarrhœa secondary to some well-defined disease should be included under the latter.

(*f*). Under the headings of "Cancer" and "Puerperal fever" should be included all registered deaths from causes comprised within these general terms. Thus: Under "Cancer" should be included deaths from Cancer, Carcinoma, Malignant disease, Scirrhus, Epithelioma, Sarcoma, Villous tumour, and Papilloma of bladder, Rodent ulcer. Under "Puerperal Fever" are to be included deaths from Pyæmia, Septicæmia, Sapræmia, Pelvic peritonitis, Peri- and Endo-Metritis occurring in the Puerperium.

(*g*). Under "Congenital Defects" in Table V. are to be included deaths from Atelectasis, Icterus neonatorum, Navel hæmorrhage, Malformations and Congenital hydrocephalus.

(*h*). Under "Tuberculous Meningitis" are to be included deaths from Acute hydrocephalus.

(*i*). Under "Other Tuberculous Diseases" are to be included deaths from Tuberculosis, Tuberculosis of bones, joints, and other organs, Lupus and Scrofula.

(*j*). All deaths certified by registered Medical Practitioners and all Inquest cases are to be classed as "Certified"; all other deaths are to be regarded as "Uncertified."

In recording the facts under the various headings of Tables I., II., III., IV. and V., attention has been given to the notes on the Tables.

JAMES BEATTY, M.D.,
Medical Officer of Health.

April 24th, 1907.

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